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Lakeview Mill Addition to Be Constructed

F. J. Sensenbrenner, President of Kimberly-Clark Corp., Announces Building of New $500,000 Project Will Begin Shortly—Another Paper Machine to be Added, Making Four In All — More Prompted by Increased Demand

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., February 15, 1937.—Announcement is made by F. J. Sensenbrenner, president, that Kimberly-Clark Corporation will begin construction soon on its $500,000 addition to the Lakeview mill at Neenah, Wis. This project is additional to its improvement program of 1936 involving expenditures of approximately $1,000,000 for expansion of the Lakeview mill, a new 3-story office building, and other plant extensions. The new unit will approximate that built in 1936, 110 by 130 feet in size, a two-story structure of concrete and steel. Another paper machine is to be added, making four machines in all in this mill. Mr. Sensenbrenner states that the addition was prompted by increasing demand for paper and Cellucotton specialties manufactured at the Lakeview mill.

Masonite to Increase Capital

A substantial increase in capitalization is contemplated by the Masonite Corporation, Wausau, Wis. The company has informed the Wisconsin secretary of state of its intention to raise the preferred issue from $3,000,000, representing 50,000 shares, to $5,000,000. The common stock will be boosted from 600,000 no par shares to 700,000. Constantly expanding operations are the basis for additional capital requirements.

Flood Control Project

Three water power sites owned by the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., are included in the recommendations of the National Resources Committee for a $14,300,000 appropriation by the federal government for flood control on the Wisconsin River. If the project goes through as a means of financing construction of power dams, the company plans to reimburse the government for a portion of the amount.

One of these, the Bottle Island site near Knowlton, has been mentioned as part of the program of the Wisconsin Valley Improvement Company's fifteen million dollar flowage control system, including reservoirs on the Big and Little Eau Pleine Rivers. The Knowlton dam will develop 8,570 horsepower, engineers believe, and this total will be larger than that of any other dam on the Wisconsin River. The fall will permit a 25-foot head of water. The drainage area there at present is 4,522 square miles. It will be necessary to relocate a portion of U. S. Highway 51 before the dam can be built. The two other sites are the Pentewell, with a possible head of 42 feet, and the Table Rock site, offering a head of 28 feet. These two are in Adams and Friendship Counties, near Kilbourn, Wis.

News of the Industry

Passage of the Sigman-Severson Labor Disputes bill by the Wisconsin Assembly has been held up pending conferences with Governor Philip F. La Follette by employers and labor representatives. An amendment was defeated requiring a labor organization to submit grievances to an arbitration board before calling a strike. Five other amendments to set up certain restrictions upon the powers of organized labor and the proposed state labor relations board also were defeated. The bill therefore remains in its original state, despite objections by paper manufacturers and others that it gave protection to labor but practically none to employers.

An attempt to pass the bill at once was defeated by a vote to refer it to the joint finance committee of the Assembly and Senate, because of a clause appropriating $50,000 to the labor relations board. This delay gave the employers an opportunity to present their objections to the governor, who is expected to make recommendations for changes. The bill is considered a "little Wagner Act" for Wisconsin industrial concerns.

The marriage of Miss Joan Clark, daughter of Mr. and Mrs. C. B. Clark, Neenah, Wis., to John Catlin, of Appleton, Wis., is to be solemnized Saturday evening, February 27, at the First Presbyterian Church at Neenah. It is reported to be one of the major social events of the season in the Fox River Valley. Miss Clark's father is president of the Riverside Paper Corporation. Mr. Catlin is associated with Kimberly-Clark Corporation at Neenah.

Edmund Arpin, Jr., of Hamilton, Ohio., has accepted a position as sales representatives with Leavens-Guidotti Company, Neenah, Wis., paper makers' supply dealers. He is a son-in-law of Frank A. Leavens, president.

Mr. and Mrs. D. K. Brown of Neenah, Wis., have announced the engagement of their daughter, Dorothy, to Stanley E. Severson of Neenah. Mr. Brown is vice-president and general manager of the Neenah Paper Company. Mr. Severson is employed with the Banta Publishing Company, Menasha, Wis. No date has been set for the wedding.

Possible News Shortage Discussed In Canada

United Kingdom Publishers Much Exorcised Over Situation—Investigate Possibility of Obtaining Larger Supplies From British North America—Lord Rothermere Believes Newsprint Industry Is on Threshold of Great Prosperity

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., February 15, 1937.—What with increasing consumption and a mild and almost snowless winter hampering pulpwood hauling operations in the woods, the menace of a possible newsprint shortage is becoming a leading topic of conversation here. Publishers in the United Kingdom are also much exorcised on the same subject, and are turning with increasing interest to the possibility of getting larger supplies from Canada and Newfoundland.

Heads of the newsprint industry here have received a cabled communication from Lord Rothermere, of the *London Daily Mail* chain of newspapers, on the subject. In his cable, he said:

"Hope your confrères fully recognize that the improvement in pulp and paper is only at the initial stage.

"From sources of information at my disposal, it is a certainty, barring a war, pulp and newsprint industries will, within two years, be confronting a shortage that may easily become permanent. There is now no room for weak kneed negotiations for supplies to publishers or others except at prices much beyond those prevailing at the present moment.

"When in Canada last September I urged the industry to take a wide and comprehensive view of the situation. My judgment then has proved 100 per cent accurate.

"The newsprint industry in particular is on the threshold of prosperity beyond anything it has experienced before."

Laborador Limits Secured by English Firm

The first concrete development regarding what appears to be a rising scare in England, over supplies has been taken by the famous newsprint manufacturing firm of Bowater Paper Mills, which, in conjunction with Edward Lloyd and Sons, have secured an option from the Newfoundland government on 1,550 square miles of timber limits at Hamilton Inlet, Labrador.

As soon as possible when spring comes the property will be surveyed by land and air. Then if the option is taken up, cutting operations will be organized for supplying between 100,000 and 200,000 cords of pulpwood annually for export to England, to start in 1938.

The Bowater Paper mills produces some 550,000 tons of newsprint annually. They are getting their pulpwood from Scandinavian sources and are said to be anxious to get a secondary source of supply in view of the advancing prices of Scandinavian pulpwood.

Donnacona's Earnings Higher

The Donnacona Paper Company's annual report for the calendar year 1936 shows an operating profit of $285,003, as compared with $206,991 in 1935, a gain of $78,012.

The report states that the amount of newsprint produced in 1936 showed an increase of approximately 20,000 tons and that sales of insulating board increased about 20 per cent over sales in 1935. A small profit was also derived from the sale of sulphite pulp. As a result of the improved contract position and the increasing demand for newsprint, the company anticipates a considerably higher rate of newsprint production in the current year. The company also looks forward to improved demand for insulating board.

The program of plant improvements and betterments which the company is carrying out, financed by the recent sale of $750,000 of 5½ per cent notes, will result in lower manufacturing costs and will increase production of newsprint by at least 12,000 tons per year, bringing newsprint capacity up to 85,000 tons per annum. Improvements to the sulphite mill will enable the company to sell approximately 15,000 tons of sulphite pulp per year, nearly all of which, it is stated in the report, is under contract for 1937. In addition to defraying the cost of the capital expenditures now being made, the 5½ per cent notes will provide an additional $200,000 of working capital.

The company has just let a contract for the construction of two newsprint carriers. The ships will be operated on the Richelieu River-Lake Champlain waterway from the St. Lawrence to New York.

Lake St. John Reports Increased Profits

The annual statement of the Lake St. John Power and Paper Company for the calendar year 1936 shows operating profit at $792,532, as compared with $537,578 for 1935, and net earnings amounted to $103,001, as compared with a deficit of $271,983 for the preceding year.

The balance sheet, which reflects the capital reorganization effected during the year, shows net working capital of $1,525,951 against $1,308,655 last year.

The reorganization, states A. Stewart McNichols, president, "has eliminated all arrears of interest and dividends" and the company "appears to be well able to provide out of earnings for interest on bonds and debentures."

Mr. McNichols also states: "Output at the mill averaged 90.1 per cent of capacity in 1936 compared with 79.3 per cent in 1935. These percentages are calculated on revised minimum capacity of 300 tons per day against 270 tons in previous year. An increased output is expected in 1937."

Heavy Newsprint Exports from Saint John

From Saint John, N. B., it is reported that heavy exports of newsprint are going via that port, and the volume for the season promises to far exceed all previous records.

Loading, at the time of the despatch was a 4,000 ton shipment for London with another vessel to follow immediately with a full cargo for the same destination. Another consignment is due to go forward to Tampa and other Gulf ports whilst it is stated that about 12 more vessels are due to take full newsprint cargoes from that port in the next few weeks for Old Country and United States destinations. The newsprint is coming from the plants of the International Paper Company at Dalhousie, N. B., and Three Rivers, P. Q. Already several full cargoes have gone forward.

Shipments of 2,000 tons and more have been going to South American ports in addition to many thousands of tons which have already been sent to those destinations this season including Buenos Aires and Montevideo.

In addition to these complete cargoes, other liners, operating from this port have been taking newsprint cargoes, shipments going forward via the C.P.R. boats weekly to the Old Country and via the Elder-Dempster freighters to South African ports and to ports in India, whilst Mexico and the Caribbean areas have also been heavy importers.

Paper Demand Continues to Improve In Chicago

All Sections of Local Paper Industry Display Strength — Cover Papers and Papeteries Advance — Kraft Paper Situation Strong — Newsprint Position Fairly Satisfactory — Groundwood Paper In Better Request Than of Late

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., February 15, 1937.—With all regional meetings out of the way and the annual meeting of the industry just ahead Chicago paper merchants and sales executives this week took stock of the business improvement picture and found it very acceptable. Included in the latest news with more than a trace of optimism is that featuring the $5 to $10 upturn in papeteries, the increase depending upon the grades. Covers moved into higher ground, the increase also varying from $5 to $10. Chip board figures were also on the stronger side while the kraft market, a bit harder to specifically report on, is listed as in increasingly better shape. Mills are far behind in orders. Groundwoods were stronger with demand increasing as the Spring season nears. Newsprint offices locally were fairly satisfied with the present position of the industry. The waste paper market was little changed as to actual price levels but an increasing demand was reported present as an indication of higher ground. Markets in general displayed a strong tone, with the only drawback being the increasingly high cost of raw materials and production costs which whittled the price increases down to a narrow margin.

Large Contingent for Paper Week

The Chicago paper trade is contemplating sending about two private car loads of representatives to the annual meeting of the industry to be held in New York February 22-25. The Chicago contingent will leave over the Commodore Vanderbilt on Sunday, February 21. J. H. Coy has been appointed chairman of the nominating committee for the Midwest Division of the Salesmen's Association of the Paper Industry, the elections to be held on February 23. According to the Midwest Division, the semi-comic selling skit to be featured as the entertainment during the luncheon program is in itself well worth the trip to New York.

Henry B. Weil's New Venture

Announcement has been made of the formation of a new type of business to be known as Harry B. Weil and Associates, with headquarters at 100 North La Salle street. The function of this business is to provide a service in national sales and distribution for manufacturers of products distributed through grocery stores.

For the past five years vice-president and general manager of the Seminole Paper Corporation, Division of the International Paper Company, Mr. Weil recently resigned to form his own organization.

In the Fall of 1931, Mr. Weil and R. J. Cullen, now president of the International Paper Company, organized the Seminole Paper Corporation, with Mr. Weil as operating head of the business. Starting with Chicago, territories were added one by one until national distribution was completed.

News of the Industry

An example of good will development and an enhancement in the knowledge of the paper business is contained in the recent tour of the Champion Paper and Fibre plants at Hamilton by nearly one hundred members of the North Side Printing Guild of Chicago. The group journeyed to the Ohio city shortly before the first of the month accompanied by representatives of four local paper houses representing Champion products here. These included the Swigart Paper Company; Parker, Thomas & Tucker; J. W. Butler Paper Company and Bradner Smith & Co. An educational tour of the mill together with several entertainment features combined to make the jaunt a pleasant and profitable one for the printers and paper salesmen.

The Gibraltar Paper Company, recently organized to deal in second and "job lot" papers, is reported as being favorably received in a number of local trade circles. Reputedly amply capitalized and with a number of excellent contacts already made to secure sufficient supplies of "job lots" and "seconds," the new company has already arranged for the use of a four story building at 416 West Huron street, Chicago. About 35,000 square feet of floor space are available for the business of the company. Ten well known Chicago paper jobbers are the incorporators of the Gibraltar organization and while matters are now in a most formative stage there are plenty of indications that the protection of the job lot market in this area through this type of outlet is going through with promise of success. Duke Bachrach, former head of the General Paper Corporation, has been named as the president of the Gibralter Paper Company, while B. H. Bachrach, formerly head of the Interstate Paper Corporation, is to be the sales director of the new company.

The paper industry is interested in three bills introduced into the Illinois legislature during the week which are designed to protect manufacturers and wholesalers selling to State offices from outside competition as far as the 3 per cent Illinois sales tax is concerned. The bills call for an automatic increase of 3 per cent on the amount of any bid submitted by a "foreign" concern as compared to Illinois companies submitting bids. The desire is to equalize the position of bidders to get around the provisions of the Interstate Commerce Act which prohibit state taxation of goods moving across state lines. The bill, introduced by Representative Schnackenberg of Chicago, means a great deal to State suppliers of paper and kindred lines.

Local interest in the new Hammermill Rippletone Bond has been noteworthy in the Chicago market. The paper, described as "distinctly modern", has the appearance of a cockle finish with the "lively rattle and crackle found in higher priced papers." A 133 line screen halftone is utilized in a descriptive folder to illustrate the unusual degree of uniformity in writing and printing qualities.

The Gilbert Paper Company has recently issued a descriptive mailing piece on Resource Bond over the local signature of Dwight Bros. Paper Company. The folder is primarily designed to indicate the wide usage of the product and points to the fact that a "ribbon of Resource Bond wide enough to make a two pass highway extending from Alaska to Cuba is being used by American business for its stationery requirements each year". The folder is printed on Resource Bond, Substance 20.

Watab Paper Co. Earnings

Watab Paper Company, of Sartell, Minn., reports net income for 1936 of $67,089, or $2.09 a common share, which compares with a net loss of $133,164, in 1935.

Outlook for Great Lakes Paper Co. Brighter

Operations for Six Months Ending Dec. 31 Resulted In Net Profit of $259,807 — Plant Operating 24 Hour Day Six Full Days Per Week — Output Sold to Capacity for Current Year — Sulphite Production to be Increased.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., February 15, 1937.—At the annual meeting of the Great Lakes Paper Company, Ltd., Fort William, Ont., which was held in Toronto, the report showed that operations for the six months ending December 31 resulted in net operating profit of $259,807. That was after manufacturing, selling and administrative expenses, but before repreciation and bond interest. Before setting aside $15,896 for depreciation, profit was 1,732 times bond interest for the half year. After depreciation, amount available for bond interest was $107,911 compared with requirements of $150,000 for the six months.

In his report, C. H. Carlisle, president, said in part: "The cash available for the settlement of unpaid debts, as of May 31, 1936, was $165,853.20, which was about sufficient to meet current operating liabilities as of that date. The unpaid accounts for legal fees, trustees' fees and various other re-organization costs amounted to $388,965.52. Your Bondholders' Committee obtained a reduction of $29,816.09 on these accounts, which left a net amount to be met of $359,149.43. In addition, payment had to be made on the bond coupons which fell due on April 1, 1936, amounting to $150,000; therefore, an amount of $309,149.43 had to be provided to meet the indebtedness then due. This was done by establishing a bank credit of $500,000.

"To improve the quality of the mill products, increase production of the plant and to effect economies in delivery, it is essential to make certain capital expenditures. Contracts have been awarded in the amount of $218,000 for this purpose. It is also the purpose of your management to increase the output of sulphite, to manufacture by-products, lumber, large timber, ties, piling, etc., all of which will add to the revenue of your company. The bondholders have agreed to postpone the interest due on October 1, 1936, and on April 1, 1937, which gives your company $300,000 cash whereby these improvements may be made without increasing your bank indebtedness.

"Your plant is operating on a 24-hour day, six full days per week. The cost of production has been reduced somewhat over $5 per ton, as compared with the average cost of operations prior to taking over the business as of June 26. Selling prices, compared with 1936, have advanced $1.50 per ton. Your mill is sold to capacity for the current year. The combined effect of economies in operations, plus a fifty per cent reduction in selling cost for the year, together with the additional revenue derived from the increased selling price of newsprint, should result in your company showing a satisfactory profit during the current fiscal year," concluded Mr. Carlisle.

Newsprint Situation Discussed

Although 1936 was the largest production year in the history of the newsprint industry the price charged per ton for delivery in New York City, $41, was, with the exception of 1934-35, the lowest in thirty years according to Charles Vining, of Montreal, president of the Newsprint Export Manufacturers Association of Canada who addressed the Canadian Club in Toronto. This meant that 3,200,000 tons of newsprint turned out by Canadian mills in 1936 were sold at prices that yielded $20,000,000 less than a minimum economic return.

"It is quite clear," added Mr. Vining, "that in 1937 the Canadian industry is entering on its fifth consecutive year of loss. This is a situation bordering on the ridiculous. It has been possible in recent years for a single manufacturer by timidity, vanity or faulty judgment, to be bamboozled into a decision sealing the fate of the whole industry for a whole year."

Pointing out that a single Sunday edition of the New York Times meant 225 acres of forest, Mr. Vining declared that Canada was using up her timber wealth and getting little for it beyond the wages of the workers. "Millions of dollars in investments have gone several years without returns. I believe, however, improvement is coming and that the law of supply and demand will have its way," he observed.

Hinde & Dauch Profits Up

The annual report for the Hinde & Dauch Paper Company of Canada, Toronto, showed net of $1.31 per common share, compared with $1.17 in 1935. Gross profits of $721,873 compared with $664,436 in previous period, with depreciation up from $185,146 to $190,812. Bond interest was lower, but taxes climbed up from $60,187 to $72,414. Working capital is improved from $1,209,825 to $1,326,825, with current assets of $1,593,472 compared with current libilities of $266,647.

In addressing the shareholders, Sidney Frohman, president, said production of paperboard and shipping cases increased approximately 12 per cent during the year and reached new highs in tonnage in both items. The company's mills produced almost 70,000 tons of these products during 1936 and the increases compared favorably with increases shown by the two industries as a whole.

Approximately 27 per cent of total domestic demand for paperboard and shipping cases was supplied by the company. The president, in referring to the financial statement of the company, stated that $53,500 of the company's bonds were retired through sinking fund operations during the year. Dividends totaling $187,459.50 were paid, and it is the intention of the management to maintain, if possible, the prevailing rate of $1 per share during the current year.

New Paper Mill Project

United States pulp and paper interests approached the Saskatchewan Government seeking concessions in northern timber areas for a paper mill it is proposed to establish. This was learned from an authoritative source which stated the plan is to build a mill on Dore Lake, 150 miles northwest of Prince Albert. The proposal is said to involve expenditure on a mill, on a power project 250 miles northwest of Prince Albert, and on a railway to connect with the Canadian National at Big River. E. C. Dawley, Rothschild, Wis., of the Marathon Paper Mills, has been conducting negotiations. He has also arranged for the shipment of spruce logs from northern Saskatchewan to his company's mills. A 199-year lease on a large timbered area is sought by the United States interests.

Boston Paper Industry Displays Upward Trend

Coarse Paper and Gummed Tape Sections Very Firm — Spot Kraft Paper Rather Scarce — Merchants Experience Difficulty In Securing Sufficient Supplies — Demand for Various Grades of Fine Paper Falls Off Slightly

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., February 15, 1937.—A strong paper market was sustained in the Boston area last week, with a general upward trend. There was possibly a little falling off in the demand for fine paper in some quarters. At the New England office of a paper manufacturer, it was intimated that the market was rather spotty, with large individual printers busy, but the smaller ones not operating.

The kraft market, and consequently the gummed tape market, was very firm. Spot kraft is rather scarce here, with an upward tendency. Merchants have difficulty in securing sufficient supplies. Stocks ran low some time ago, but it was felt that they might be replenished during the summer. Orders came in so fast, however, that there was no chance for doing this. The definite shortage of pulp has also interfered with the manufacture of at least a normal supply of paper. Box board business continued good.

The paper stock market continued to show an upward tendency on the majority of grades, with definite advances in several grades. Mixed papers and old newspapers were firm at the same levels. No. 1 books, heavy, rose to 1.25 from 1.05 @ 1.15; No. 1 books light to .65 @ .75 from .50 @ .60, manila envelope cuttings to 1.60 @ 1.70 from 1.50 @ 1.60, manila envelope cuttings, extra quality, to 2.15 @ 2.25 from 1.85 @ 1.95, No. 1 kraft to 1.45 @ 1.50 from 1.40 @ 1.45, transmission rope to 2.00 @ 2.25 from 1.90 @ 2.00, and kraft corrugated boxes to 1.20 @ 1.25 from 1.15 @ 1.20, all f. o. b. Boston

With the termination of the automobile strike, the bagging market is expected to strengthen, in fact, a few grades have already advanced. Considerable bagging was sold in Boston during the last week. Foreign manila rope went up to 3.90 @ 4.00 from 3.50 @ 3.60, jute rope to 2.50 @ 2.75 from 2.25@ 2.50, and scrap sisal for shredding to 2.60 @ 2.75 from 2.50 @ 2.60, all f. o. b. Boston. New and old domestic rags continued unchanged. All other grades of bagging were steady.

In foreign rags, dark cottons were the exception, in the upward movement, declining to 2.20 @ 2.30 from 2.25 @ 2.35, f. o. b. Boston. It is stated that prices went down because packers on the other side were evidently having some difficulty in selling at figures asked. All other grades of foreign rags except old linsey garments, which remained steady, were marked up. New white shirt cuttings rose to 6.75 @ 7.50 from 6.50 @ 6.75, Dutch blues to 3.00 @ 3.15 from 2.25 @ 2.50, new checks and blues to 2.85 @ 3.00 from 2.50 @ 3.00, old fustians to 2.75 @ 2.85 from 2.25 @ 2.35, and new Silesias to 6.50 @ 7.00 from 6.00 @ 6.50, all f. o. b., Boston.

Demand for twine is brisk, although mill deliveries are very slow. Most low-priced goods appear to be off the market now.

News of the Industry

A meeting of the board of directors of the New England Paper Merchants Association is to be held Wednesday afternoon, February 17, to discuss plans and policies for the coming year, with special emphasis on serving members outside of the Boston Metropolitan area.

At six o'clock, there is to be a general meeting, to which substantially all the wrapping paper merchants in Metropolitan Boston are invited. The meeting will be addressed by J. R. Carter, 2nd, of the Nashua Package Sealing Corporation; Mr. Ketcham, of the Southern Kraft Corporation, and Frank Herrick, of the Columbian Cordage Company. They will talk on market conditions in their products. Harry J. Dowd, chairman of the paper distributors' cost finding committee, will preside.

A sales meeting of Carter Rice & Co., Corp., was held at the office of the company Saturday morning, at which Norman Harrower, of Linton Brothers & Co., discussed sales and advertising programs for 1937. Frank H. Winter, sales manager, presided.

John R. Wrigley, president of the New England Division of the National Paper Box Manufacturers Association, announces that the annual meeting of the organization is to be held at the Providence-Biltmore Hotel Thursday, April 8. A session will be held in the afternoon which will be of unusually practical benefit to all paper box manufacturers. The annual meeting has been a big success for several years and it is expected that the coming one will be no exception.

William E. Treat, of the White & Wells Company, paper box manufacturers, Waterbury, Conn., well known to the Boston trade, has gone to St. Petersburg, Fla.

A. A. Raphael, traffic manager, New England Paper and Pulp Traffic Association, was elected a member of the Maritime Association at a meeting of the governing board of the organization, held February 9 at the Boston Chamber of Commerce.

The office of Reynolds Bros. Corporation, 312 Congress Street, cordage and twine, was among those damaged by a four-alarm fire in the warehouse of the Grasselli Chemical Company at 300 Congress Street Saturday night. The total damage was estimated at $100,000.

APPA Annual Meeting Program

The Annual Meeting of the American Paper and Pulp Association will be held at 2:30 p.m., on Thursday, February 25, at the Waldorf-Astoria, in New York. The meeting will be listed as an Open Meeting of the Board of Governors. All manufacturers of paper and pulp are urged to attend.

Although the program of the meeting is being patterned after that usually followed in the Board of Governors' meetings, there will, however, be two outside speakers; Ernest G. Draper, the Assistant Secretary of Commerce, Washington, D. C., and Wilbur LaRoe, who will represent the industry in the hearings before the Interstate Commerce Commission in respect to freight rate increases.

Mr. Draper will speak at the beginning of the meeting as he must return to Washington on an afternoon train. Mr. LaRoe will discuss the proposed freight rate increases on many grades of paper, which are now pending before the Interstate Commerce Commission.

In addition, the Governors will report upon business conditions in their respective Divisional Associations. The Chairmen of the Association's committees will also render their annual reports.

Joins Pennsylvania Salt Mfg. Co.

Thomas W. Toovey has joined the staff of the Pennsylvania Salt Manufacturing Company, one of the principal producers of liquid chlorine in the United States. He has just returned to America after an extended trip through Norway, Sweden and Finland where he visited pulp and paper mills.

Mr. Toovey first entered the pulp and paper industry in 1923. Five years were devoted to work with the Canada International Pulp and Paper Company at Hawkesbury, Ont., where he was a member of the Research Department under Professor Heuser. The following six years he was employed by the British Columbia Pulp and Paper Company, Port Alice, Vancouver, where most of his time was spent dealing with mill work and plant problems and in gathering first-hand general plant experience.

During the past two and one-half years, Mr. Toovey was in the Research and Bleaching Department of the Harmanec Pulp Mills, at Harmanec, u. Banske Bystrice in Czechoslovakia. Here he was privileged to work under

THOMAS W. TOOVEY

Dr. Ladd Rys, the bleaching expert known throughout the world.

Mr. Toovey is a chemical engineer and member of the Engineering Institute of Canada. His Canadian, American, and, more recently, his wide European experience has admirably equipped him to assist the Pennsylvania Salt Manufacturing Company in handling pulp bleaching problems and their relation to the use and application of liquid chlorine. Mr. Toovey has been assigned to the Chlorine Sales Division and will be located at the Philadelphia executive offices of the Pennsylvania Salt Manufacturing Company.

Dard Hunter Book at New Low Price

In the PAPER TRADE JOURNAL for December 10th, 1936, there was given an account of the book "Papermaking Through Eighteen Centuries" by Dard Hunter. Only 150 copies of this volume now remain, and owing to the prohibitive cost of producing such an elaborately-illustrated edition the book will not be reprinted. There are 356 pages and 114 illustrations—all pertaining to the interesting craft of papermaking. This book should be in the libraries of every paper mill, paper-maker and paper-dealer. The volume was originally issued at $17.50 and over 1200 copies were sold at this figure. The remaining copies may now be had for the low price of $4.75, express prepaid, by addressing the author; Dr. Dard Hunter, Chillicothe, Ohio.

Work of the Import Committee

According to a report by Warren B. Bullock, manager of the Import Committee, two cases involving two types of board have recently been tried in the United States Customs Courts. One case involves the importation of beer mat board, chiefly imported from Austria. The board was classified for duty at 30 per cent, as embossed board, because of the stippled effect produced to facilitate the absorption of moisture from beer glasses. Domestic producers testified that the stippled effect was not, as claimed by the aforesaid importers, a normal finish of paper board.

The other case involves an effort of importers to secure the admission of stained screening 9-point board as a substitute for corrugating straw paper. The importers claimed such material to be dutiable at the reduced rate granted Netherlands for 9-point straw paper, while the Customs officials held the paper dutiable as stained board at 30 per cent. This material was imported to the U. S. from Canada.

Based on complaints by the Import Committee, dializing parchment from Belgium imported at a value of about 35 cents per pound at Norfolk was held to be undervalued.

German overlay paper was found to be undervalued about 25 per cent by New York officials.

Philadelphia officials advanced the dutiable value of M. G. Sulphite containing 25 per cent ground wood about $8 per ton.

Action by Baltimore Customs officials in holding German leather board to have been under value caused entire cessation of such imports.

A reported importation of English book paper at Los Angeles was found on further examination to be unbound printed sheets of books, and not paper as indicated by first reports.

Imports of Canary writing at Philadelphia ceased when complaint on the low prices disclosed undervaluation.

Government Paper Bids and Awards

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 17, 1937.—The National Pulp and Paper Company has been awarded the contract for furnishing the Government Printing Office with 440,000 pounds of newsprint paper in 32 inch rolls at 2.15 cents per pound.

Reese & Reese will furnish 17,700 pounds (50,000 sheets) of 26 x 42 inch drumhead manila paper at 15.5 cents per pound. Bids for both of these items were received on January 18.

The Printing Office has received the following bids for 1,275 sheets of 20 x 25 inch green gummed paper; Whitaker Paper Company, at $16.58; Mathers-Lamm Paper Company, $15.30; Walker-Goulard-Plehn Company, $16.97 less 2 per cent; Reese & Reese, Inc., $16.83; and Virginia Paper Company, $17.85 less 2 per cent.

The Mathers-Lamm Paper Company will furnish 53,700 pounds (300,000 sheets) of 33 x 43 inch white antique book paper at 5.387 cents per pound, bids for which were received on February 3.

Squeeze the most dollars out of waste water

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The practical question to ask about any fibre recovery system is what will it *net?* . . . The Bird Save-All is built with just that one thing in mind—highest *net* return on your investment. Let us work out the figures and see for yourself.

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YOU CAN MAKE MORE MONEY WITH NEW BIRD MACHINERY

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Neenah, Wis.—The Kimberley-Clark Corporation, manufacturer of heavy paper stocks, colored papers, etc., has plans maturing for new addition to local mill, to be five-story, brick and steel type, estimated to cost close to $500,000, including equipment. Work is scheduled to begin at early date. F. J. Sensenbrenner is president.

Montgomery, Ala.—Barton R. Biever and associates have concluded negotiations for acquisition of former local property of the Montala Mill, in vicinity of Maxwell Field, and will take over at once for establishment of a new plant for the manufacture of paper boxes and containers. Present buildings will be remodeled and modernized, with installation of equipment for large capacity. New buildings, also, are planned at early date. Entire project is reported to cost over $100,000, including machinery. A company will be organized to operate the plant.

Plymouth, N. C.—The Kieckhefer Container Company, West Canal street, Milwaukee, Wis., manufacturer of corrugated boxes and containers, has awarded contract to the Bethlehem Steel Company, Bethlehem, Pa., for structural steel framing for new kraft pulp and paper mill at Plymouth, where large tract of land was recently acquired, as previously noted in these columns. Foundation work for main one and multi-story units is being placed under way and erection of steel frame superstructure will begin soon. The order for structural shapes totals 1,100 tons. Company has also awarded contract to the Ingalls Iron Works, Birmingham, Ala., for steel tanks, piping and miscellaneous steel work, approximating 650 tons. Other awards for structural work, as well as equipment for mill installation will be made soon. New plant will be equipped for an initial capacity of about 200 tons per day and will give employment to approximately 250 persons in different departments. James Stewart & Co., 230 Park avenue, New York, is general contractor; Lee Engineering Company, Charlotte, N. C., is engineer. New mill is estimated to cost about $3,500,000 and is scheduled to be ready for operation late in the summer.

Gloucester City, N. J.—The Hinde & Dauch Paper Company, manufacturer of corrugated boxes and containers, has plans for new one-story addition to plant at Gloucester City, for which superstructure will begin soon. No estimate of cost has been announced. Company has recently razed an old brick stack at the plant, about 175 feet high, to provide site for the new structure.

Brooklyn, N. Y.—The Metro Carton Corporation, recently organized, plans operation of local plant for the manufacture of paper boxes and cartons of various kinds. New company is capitalized at 120,000 shares of stock, no par value. B. Robbins, 25 Warren street, New York, stationery specialties, is identified with new organization and company representative.

New Orleans, La.—The Flintkote Company, 50 West Fiftieth street, New York, manufacturer of roofing papers and products, has awarded general contract to Herman T. Makofsky, 3034 Palmyra street, New Orleans, for new one-story plant at Poland and Galvez streets, New Orleans, recently referred to in these columns. It will be one-story, 68 x 116 feet, estimated to cost close to $80,000, including equipment. Work will be placed under way at once. The Billingsley Engineering Company, Interstate Building, New Orleans, Louisiana, is the consulting engineer.

New York, N. Y.—Johns-Manville Corporation, 22 East Fortieth street, manufacturer of roofing products, asbestos paper specialties, etc., has authorized an expansion and improvement program at mills in different parts of the country during 1937 to cost $3,400,000, and financing in amount of $10,000,000 for this and other operations has been approved. At branch plant at Waukegan, Ill., an expenditure of $275,000 will be made for new addition and installation of equipment; at Alexandria, Ind., company will expend about $30,000 for a new mill unit and equipment installation; at mining properties and mill at Lompoc, Cal., company will use approximately $81,000 for additions and betterments, with installation of new machinery; at Manville, N. J., lately referred to in these columns, approximately $1,200,000 will be expended for erection of three new plant units and installation of machinery, as well as for new addition to power house and equipment installation for increased capacity in that department; at mining properties and mill at Asbestos, Que., a fund of over $1,000,000 will be used for additions and improvements, with modernization of present facilities and installation of equipment for increased capacity. Plans are under way for the construction of two new plants in different parts of the country, for which sites will be selected at early date; one of these is estimated to cost about $650,000, including equipment, comprising several production units, with power house and other operating facilities; the other new plant will represent an investment of about $100,000. Work on various projects noted will be placed under way at early date, that at Manville, N. J., having been started recently. Lewis H. Brown is president.

Los Angeles, Cal.—The National Automotive Fibres Inc., 19925 Hoover avenue, Detroit, Mich., and Railroad and Kennedy avenues, Oakland, Cal., manufacturer of fiber products for automobile service, has awarded general contract to the William P. Neil Company, 4814 Loma Vista avenue, Los Angeles, for proposed new branch plant at 5000 Randolph street, Los Angeles, lately noted in these columns, and superstructure will be placed under way at once. New plant will be one-story, totaling about 75,000 square feet of floor space, and is estimated to cost close

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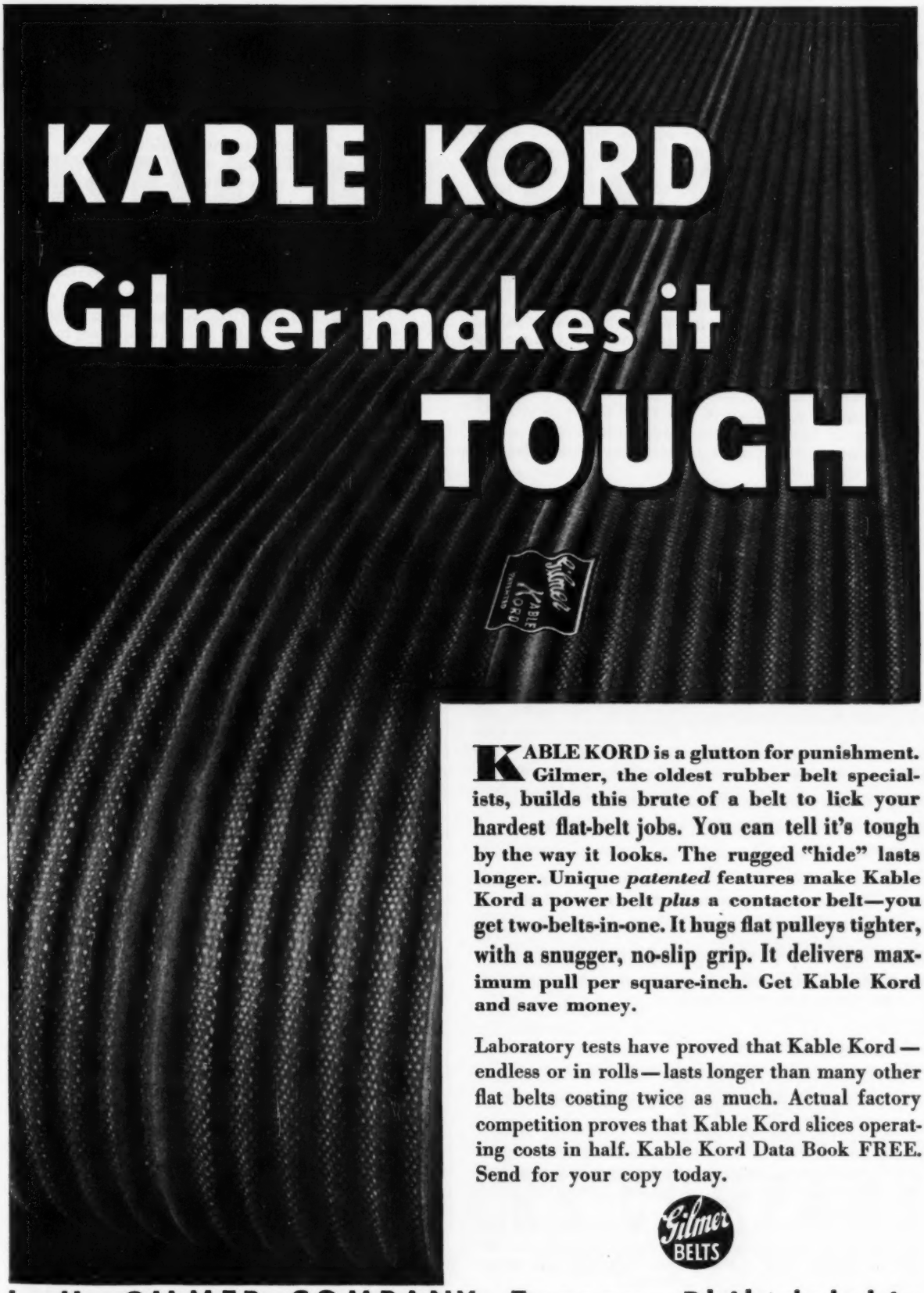

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Gilmer BELTS

L. H. GILMER COMPANY, Tacony, Philadelphia

to $250,000, including equipment. Harry T. Miller, 4814 Loma Vista avenue, Los Angeles, is architect.

Prince Albert, Sask.—The Marathon Paper Mills Company, C. C. Yawkey, president, is interested in a project to construct and operate a new pulp and paper mill in vicinity of Dore Lake, about 150 miles northwest of Prince Albert. Negotiations are under way by Mr. Yawkey and the Provincial Government for a long-term lease of large tract of timber properties in that district and concession for the proposed mill. It will consist of several large units, including a hydroelectric generating plant on Dore Lake, and is reported to cost over $2,000,000. A railway line will be constructed from mill site to connection with the Canadian National Railway at Big River, Sask.

Shreveport, La.—Bird & Son, Inc., East Walpole, Mass., manufacturer of roofing and building papers, wall board, insulating board, etc., has acquired property in the Angurs district, Shreveport, comprising part of former textile mill of the Gilmer Company, and will take over at once. Structures will be remodeled and improved, with installation of equipment for new line of output, providing for large capacity. Work is scheduled to begin at once, with plans to have new plant ready for service in the spring. Entire project is reported to cost over $150,000, including equipment.

Port Arthur, Ont.—The Thunder Bay Paper Company, Ltd., has plans nearing completion for extensions and improvements in mill, including modernizing of present mill and equipment. Considerable new machinery will be purchased and installed for increased capacity and efficiency. Entire project is estimated to cost over $500,000 and will be placed under way early in the spring. Company is operated by the Abitibi Power and Paper Company, Ltd., Port Arthur, and 408 University avenue, Toronto, Ont.

Toronto, Ont.—Eaton, Crane & Pike Company of Canada, Ltd., 366 Adelaide street West, Toronto, manufacturing and distributor of paper products, has purchased the four-story building at 375 Madison avenue, totaling about 44,000 square feet of floor space, and will improve and occupy for new local plant, including storage and distributing divisions. Expansion will be carried out at new location, which company will occupy during April, removing from present building, first noted, at that time.

Cornwall, Ont.—The Howard Smith Paper Mills Ltd., 407 McGill street, Montreal, Que., manufacturer of writing papers and other paper stocks, has plans under way for extensions and improvements in pulp mill at plant at Cornwall, including installation of additional equipment. Program is estimated to cost in excess of $75,000, with machinery. J. C. Day, 620 Cathcart street, Montreal, is consulting engineer. Company also has plans maturing for improvements in power house at mill, including installations of new equipment in boiler division. Cost about $35,000. It is expected to ask bids in about 30 days for last noted work.

F. C. Huyck Sound Film Shown

There was another crowded attendance at the regular luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry which was held in the Florentine Room of the Hotel Lexington, New York, on Monday.

F. C. Huyck & Sons presented their sound motion film "Two Related Industries" which demonstrated the extraordinary care taken at the Kenwood mills in the manufacture of felts for the paper industry.

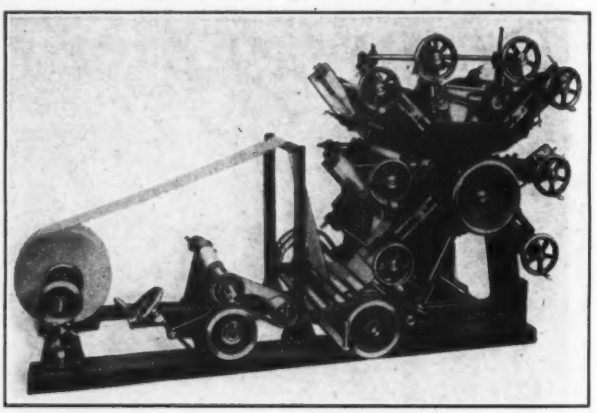
High Speed Converting Equipment

Strachan & Henshaw, Ltd. of Bristol, England, recently announced the establishment of a North American agency at Seventh and Grange streets, Philadelphia, Pa., for the sale of their paper converting and printing equipment.

They, being the engineering subsidiary of E. S. & A. Robinson, Ltd., of England, one of the largest European papers makers and converters, claim that with the converting experience of Robinson's behind them and their accumulated engineering experience of over fifty-seven years (being established in 1879) the machinery they offer to the American market is definitely most practical from the users view point.

The latest developments of Strachan & Henshaw include the fastest flat and square bag machine ever offered to the American market along with a series of high speed specially designed aniline presses. They also specialize in rotogravure printing equipment, waxers, satchel bottom bag machines, rotary letterpress printers and are lined up to develop and manufacture any special equipment.

K. A. Lehto, their American representative, has been connected with a converting subsidiary of Robinson's for many years and is well fitted to be of real assistance to the American paper trade either from the angle of supplying equipment, or acquiring information regarding the market



UNIQUE FOUR-COLOR ANIDINE PRESS.

as a whole, their firm being specially well posted on the latest continental developments.

An interesting unit is a specially designed four-color aniline printer, originally designed for coupling up with extremely high-speed bag machines. In design, this press differs from the average aniline equipment offered on the market today in that, as in most modern rotary presses, all four colors are printed around one impression cylinder, this design permitting the building of a more compact and rigid press throughout assuring you precise register at all speeds.

All ink fountains have been completely hooded to prevent splashing and minimize evaporation, a special set of baffle plates are incorporated at the end of the ink rollers to prevent the ink from creeping out and getting into the journal. There are a number of these machines in operation in this country, printing various papers including transparent cellulose exceedingly satisfactorily.

The press as photographed here is coupled up with a rewinder for the printing of rolls, when coupled with a bag machine the rewind equipment is of course omitted.

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COMING EVENTS IN THE PAPER INDUSTRY

AMERICAN PAPER AND PULP ASSOCIATION, Sixtieth Annual Convention and meeting, Waldorf-Astoria Hotel, New York, February 22-26.

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Convention, Waldorf-Astoria Hotel, New York, February 22-25. Annual Luncheon, Waldorf-Astoria Hotel, Wednesday, February 24.

SALESMEN'S ASSOCIATION OF THE PAPER INDUSTRY, Annual Meeting and Luncheon, Waldorf-Astoria Hotel, New York, Tuesday, February 23.

NEW YORK ASSOCIATION OF DEALERS IN PAPER MILL SUPPLIES, Annual Banquet, Hotel Commodore, New York, February 24.

NATIONAL PAPER TRADE ASSOCIATION OF THE UNITED STATES, Convention, Waldorf-Astoria Hotel, New York, February 22-26.

NEW ENGLAND SECTION, Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION, Technical Association of the Pulp and Paper Industry—Fourth Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION, Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION, Annual Meeting, Springfield, Mass., June 23-25.

STREAM POLLUTION BILLS

The following brief summary of bills now pending before The Congress dealing with the matter of Stream Pollution has been sent to paper and pulp manufacturers by Mr. Charles W. Boyce, executive secretary of the American Paper and Pulp Association. Some of these bills are practically identical with bills which were introduced during the last Session and upon which extensive hearings were had before Committees of both the House and the Senate. It is doubtful as to whether there will be further hearings on them this Session.

Some Federal Statute dealing with the problems of Stream Pollution will be enacted during the present Session of The Congress, in the opinion of Mr. Boyce. Several of the States' bills dealing with this same subject have been or will be introduced. If the provisions of these bills, if they are enacted, are not coordinated with those of the Federal Statute, confusion is bound to result. It would seem, therefore, that the States should delay enacting any Statute dealing with the matter of Stream Pollution until after it is definitely known what action The Congress takes.

After a Federal Statute has been passed, it would no doubt be entirely proper for a State to enact a Statute providing for the cooperation of the State with the Federal Government. As a matter of fact, it would be cheaper for a State to cooperate with the Federal Government than it would be to set up within its own borders an entirely separate Commission or Department.

Mills in those States where legislation of this type is pending should see the member of the State Legislature from the District where the mill is located and point out to him the desirability of delaying State action and of cooperating with the Federal Government. Attention might also be called to the fact that a State can only deal with streams which are wholly within its boundaries and that piecemeal legislation by the States will not solve the problem on the great watersheds.

This matter should be seriously considered immediately by the mills in each State and action should at least be started before a critical situation may develop. A resume of Stream Pollution Measures follows:

S. 13—Introduced by Mr. Lonergan of Connecticut on January 6, 1937—referred to the Committee on Commerce.

The National Resources Committee is charged with the duty of administering the proposed act. The Committee is instructed to cooperate with State agencies in: 1. Coordinating state stream pollution activities. 2. Encouraging enactment of uniform state laws. 3. Encouraging state compacts. 4. Making studies, surveys and experiments relating to stream pollution projects.

The bill provides that the country shall be divided into Sanitary Water Districts and that the standards of purity for the waters of each such District, minimum requirements for the treatment of polluting material, and regulations governing the discharge of polluting materials into navigable waters shall be formulated by a Board which would be set up in each District. In addition the District Boards would be empowered to make voluntary settlements of stream pollution controversies, to recommend to the National Board suitable projects for loans, and to institute legal proceedings to curb pollution.

The Committee is further empowered: 1. To make loans-in-aid for worthy stream pollution projects up to 50 per cent of the cost. 2. To instruct U. S. attorneys to institute injunction proceedings for the abatement of pollution as a public and common nuisance.

The bill is identical with S. 3958 introduced by the same sponsor at the last Session of Congress. At that time it had the formal support of the General Wild Life Federation. There will unquestionably be continued pressure for passage of this bill during the current Session.

The bill is definitely of the "control" type. It would place in the hands of the National Resources Committee dictatorial powers, in many instances of life and death, over certain industries. The concentration of so much power in the hands of a small group would seem to be undesirable not only from the point of view of fairness to industry but from the point of view of sound democratic principles of Government as well.

S. 15—Introduced by Mr. Longeran of Connecticut on

January 6, 1937—referred to the Committee on Commerce. This bill would amend the Oil Pollution Act of 1898 to include in its scope pollution resulting from the discharge of sludge, acids, and sewage in a liquid state as well as other matter. It would also amend the Oil Pollution Act of 1924 making it applicable not only to coastal navigable waters but to tributaries of such waters as well.

Several changes recommended by the Stream Pollution Committee of the Paper Industry have been incorporated in the new bill. Several additional sections relating to the matter of loans and appropriations have also been added but these do not change the original purport of the bill. It is still in its essential details a "study plan" bill.

H. R. 3419—Introduced by Mr. Pfeifer of New York on January 21, 1937—referred to the Committee on Rivers and Harbors.

This bill provides that it shall be unlawful for any person to deposit or cause to be deposited any refuse matter or waste in any navigable water of the United States or in any place from which in the ordinary course of events any such refuse matter or waste would flow, float, seep or be washed into any such navigable water. The administration of the bill is in the hands of an Anti-Pollution Board under the Chairmanship of the Secretary of War. This Board is instructed to cooperate with state agencies in:

1. Coordinating state stream pollution activities. 2. Encouraging enactment of uniform state laws. 3. Encouraging state compacts. 4. Making studies, surveys, experiments and investigations relating to stream improvement projects.

The bill provides that the country shall be divided into Sanitary Water Districts and that a Board shall fix the standards of purity for the waters of each such District, establish minimum requirements for the treatment of polluting materials, and promulgate regulations governing the discharge of polluting materials into navigable waters.

Each District would have a District Board empowered to make voluntary settlements of stream pollution controversies, to recommend projects for loans to the National Board, and to institute legal proceedings to curb pollution. The National Board is further empowered:

1. To make loans for worthy stream pollution projects up to fifty per cent of the cost. 2. To instruct U. S. attorneys to institute injunction proceedings for the abatement of pollution as a public and common nuisance. 3. Through its Chairman, after due notice and hearing, to issue Cease and Desist Orders. Provision is made for a court review of such orders on appeal. It is provided further that any person failing to obey any order of the Secretary shall forfeit $100.00 a day while such failure continues. 4. To subpoena witnesses, books, records, etc.

It will be noted that this bill incorporates features of both the Lonergan and Vinson Bills. It is primarily a control bill. A stream pollution bill more rigid in its provisions and in its aims could scarcely be imagined. It is the type of bill that both industries and municipalities should unite in combating.

Production Ratio Report

The following statistics are based upon paper production reports to the American Paper and Pulp Association:

COMPARATIVE MONTHLY SUMMARIES

Months	1937	1936	1935	1934
January	90.0% (c)	76.1%	65.8%	.....
February	.....	77.9%	70.0%	.....
March	.....	76.0%	70.5%	.....
April	.....	82.3%	70.0%	.....
May	.....	81.6%	69.4%	.....
June	.....	80.7%	72.3%	.....
July	.....	77.3%	64.9%	.....
August	.....	81.5%	70.9%	.....
September	.....	80.5%	71.9%	58.2%
October	.....	87.6%	75.6%	64.7%
November	.....	88.0%	75.3%	61.7%
December	.....	85.9%	71.2%	59.6%
Year Average	.....	81.3%	70.5%	.....
Year to Date First 5 weeks	89.7% (c)	76.1%	65.8%	.....

COMPARATIVE WEEKLY SUMMARIES

CURRENT WEEKS, 1937		CORRESPONDING WEEKS, 1936	
*January 9	92.1%	January 11	75.8%
*January 16	90.2% (c)	January 18	77.1%
*January 23	88.6% (c)	January 25	76.7%
*January 30	89.0% (c)	February 1	78.6%
*February 6	88.2% (c)	February 8	77.5%

The following statistics show the number of mills reporting by ratio groups.

	Number of Mills Reporting, Current Weeks				
Ratio Limits	Jan. 9, 1937	Jan. 16, 1937	Jan. 23, 1937	Jan. 30, 1937	Feb. 6, 1937
0% to 50%	49	53	53	44	31
51% to 100%	281	276	273	260	185
Total Mills Reporting	330	329	326	304	216

* Subject to revision until all reports are received.
(c) Basic capacity data have been adjusted to correspond with ratings reported on January 4, 1937, Machine Improvement Survey.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours", were as follows:

Months	1936	1935	1934	Months	1936	1935	1934
January	61%	61%	....	July	69%	59%	....
February	67%	67%	....	August	75%	65%	....
March	68%	67%	....	September	76%	69%	62%
April	70%	61%	....	October	82%	76%	63%
May	68%	61%	....	November	79%	70%	56%
June	68%	65%	....	December	74%	60%	52%

Week ending Jan. 9, 1937.. 77%
Week ending Jan. 16, 1937.. 79%
Week ending Jan. 23, 1937.. 82%
Week ending Jan. 30, 1937.. 81%
Week ending Feb. 6, 1937.. 86%

Paper Salesmen's Annual Luncheon

The Annual Luncheon of the Salesmen's Association of the Paper Industry will be held this year at the Waldorf-Astoria on Tuesday, February 23. Last year's attendance established a record, but there is every reason to believe that record will be exceeded this year. The program will be interesting, instructive, and entertaining.

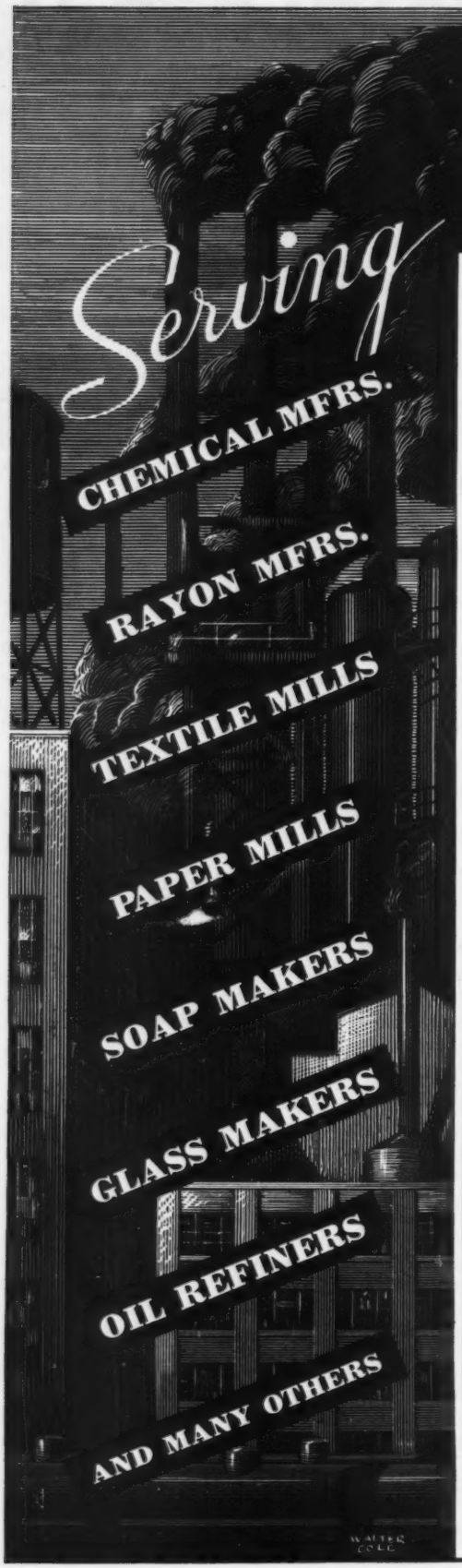
Professors Borden and Busse will offer an entirely new program entitled: "How to Make a Sales Presentation Stay Presented".

Richard C. Borden, former Professor of Marketing, is now a sales executive with a nationally-known dairy company. Alvin C. Busse is professor of Public Speaking at New York University. They have made a fifteen year research into the principles of successful salesmanship, during which time they have listened to and analyzed 15,000 sales interviews. These they have condensed into the sales drama which will be presented at this luncheon.

F. J. Sensenbrenner, president and D. C. Everest, vice-president of the American Paper and Pulp Association, will deliver messages of greeting and interest.

Those world-famous song leaders, Jimmie Leyden and Jim Coy, will perform their usual duties in the field of singing.

Application for ticket reservations should be made to Dr. E. O. Merchant, Secretary, Room 3904, 122 East 42nd Street, New York.



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Today, with a background of forty years' experience and with up-to-date plant facilities at Niagara Falls, N. Y., Saltville, Va. and Lake Charles, La., Mathieson is in a better position than ever before to serve consumers in all the principal industrial areas of the country.

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Weiss and Brennan Patents Held Invalid*

By Charles W. Rivise[1]

On September 12, 1936 Judge Borah in the Federal District Court for the Eastern District of Louisiana invalidated certain claims of Patents Nos. 1,711,706 and 1,713,593.

Patent No. 1,711,706 had been issued to Weiss on May 7, 1929 and relates to a process of producing pulp from any kind of fibrous material. Patent No. 1,713,593 had been issued on May 21, 1929 and purported to cover a feeding device for feeding any kind of material.

Both patents belonged to Bauer Brothers Company, the plaintiff in the suit. The defendant was the Bogalusa Paper Company, but the defense was actually conducted by Sprout, Waldron and Company of Muncy, Pa., which had installed the alleged infringing plant.

In his opinion, Judge Borah stated:

The claims relied on in Brennan and Hussey patent are Nos. 2 and 3; claim No. 1 having been withdrawn at the trial.

The feeding device on which letters patent issued to Brennan and Hussey comprises merely a casing into which the material is introduced through an opening, and some fluid, such as water or steam, is discharged from a pipe into the receptacle to mix with the material and carry it along. The novel feature which Brennan and Hussey claimed to have invented was the confining of his fluid pipe, or nozzle, "in the wall of said casing so as to be removed from the path of the material passing through the casing."

All of the claims in Weiss patent are relied on. Claim No. 1 relates to the method of producing pulp from fibrous material; claim No. 2 says from chips or small pieces of fibrous material; claim No. 3 says from wood; claim No. 4 says from fibrous wood, and claim No. 5 does not mention fibrous material but treats with the method of reducing coarse material to pulp.

The Weiss patent thus attempts to monopolize a process of producing pulp from any kind of fibrous material. The process as claimed consists of two important steps. For example, claim No. 1 provides:

"The method of producing pulp from fibrous material which consists in first impregnating the material with water by saturation, second, in subjecting the material in the presence of water to the rolling and crushing action of two oppositely and concentrically revolving disks under pressure to separate the fibres."

The other claims of the patent describes the alleged results of the machine operation by phrases such as "to secure hydration," "to produce hydration" or "will be hydrated." These phrases "rolling and crushing action" and "hydration" thus form essential parts of the claims and the claims in turn must define the novelty and the extent of the monopoly. On the issues as framed the Court must pass upon the validity of these claims and whether this defendant is infringing by utilizing a process wherein this hydration result is secured and wherein such a rolling and crushing action takes place. Unless furnished a clear and definite explanation of these phrases it follows that the Court will not know what it is called upon to construe and will be unable to determine whether these claims in suit are novel and valid over the structures shown in the prior art.

The question therefore arises as to whether or not the patentee and the plaintiff have given such a definite explanation as will furnish a clear and distinct understanding of what apparatus will, and what apparatus will not produce the results which are described by these phrases used in the claims. The defendant has not only pleaded in its answer this defense of uncertainty and ambiguity of language, and non-compliance with the patent statutes, but this very point was stressed by counsel in the opening statement and it is around this issue that considerable of the argument is centered.

Apart from this defense the defenses raised to the alleged infringements are the usual ones, i.e., non-infringement and invalidity of the patents because of the prior art. It is axiomatic that the burden of proving infringement rests upon the plaintiff in a case of this kind. I reach the conclusion upon considering all the credible testimony and all of the exhibits offered in the case that the plaintiff has failed to meet this burden with respect to both of the patents. In compliance with equity rule 70½ I make the following findings of fact and conclusions of law;

Findings of Fact

(A) *Weiss Patent in Suit*

1. Weiss was not the first in the art to disclose the use of attrition mills, having oppositely rotating metal disks, for grinding materials of a wide variety of different kinds; nor was he the first to disclose the use of such mills for the

* Bulletin of the Patents Committee of the Technical Association of the Pulp and Paper Industry.

[1] Chairman TAPPI Patents Committee, Caesar & Rivise, Philadelphia, Pa.

grinding of saturated material to make pulp for paper by the process of disintegration by separating and tearing the fibers apart without cutting them, nor was he the first to use such machines for thus grinding wood to make paper pulp.

2. The alleged step in the Weiss process which recites the saturation of the fibrous material as a preliminary, is a mere well-known expedient utilized in such attrition mills long prior to Weiss' date.

3. Weiss' own testimony shows that the choice of double-disk machines over single-disk machines, also the increase of speed of these disks, is a mere matter of degree, the action being the same character but merely showing better results by the change from one form to another, or by the increase of speed.

4. The phrases "rolling and crushing action" and "hydration," are essential elements in the claims in suit, and in the manner used, they are not defined sufficiently to enable the Court to determine what devices do, and what do not, come within these terms of the claims.

5. According to the testimony of the plaintiff's witness Mr. Bauer, "any sort of rubbing or pounding or crushing of wood fibers gives you hydration." Therefore hydration would be present in all the prior art patents set up by defendant.

6. The Grafflin patent has at least as good a description of "rolling and crushing action" as Weiss, and particularly refers to the action of his grinding disks as operating to "prevent the cutting of the fibers, thus preserving the fiber lengths"; and Grafflin produces "hydration" according to the definition given by plaintiff's own witness Mr. Bauer, therefore the Grafflin patent is a disclosure of all that Weiss purports to constitute his invention.

7. Weiss has failed to carry his date of invention back of December 17, 1923, which is the filing date of the Grafflin patent 1,603,543.

8. The Weiss invention was "on sale" in July or August, 1922, more than two years prior to the filing date of the Weiss application, November 3, 1924.

(B) *The Brennan Patent in Suit.*

9. Brennan was not the first in the art to disclose, in a feeding machine, the feature of locating the water nozzle in the wall of the casing so that the nozzle will be out of the path of the material; nor was he the first in the art to disclose the feature of arranging the feeding device to closely hug at least one wall of the casing at one point in the rotation.

Conclusions of Law

(A) *Weiss Patent in Suit.*

1. All of the claims in suit are invalid because they do not comply with Section 4888 of the Revised Statutes; the phrases "rolling and crushing action" and "hydration" are not defined with the distinctness required by law; and lacking such definiteness the court is unable to determine what devices do, and what do not, come within these terms in the claims, therefore the claims are invalid.

2. All of the claims in suit are invalid as not amounting to invention over the patents cited in the prior art.

3. All of the claims in suit are invalid because Weiss failed to carry his invention date back of the filing date of the Grafflin patent 1,603,534, which filing date (December 17, 1923) is the effective date of the Grafflin invention disclosing all of the features set forth in the Weiss claims.

4. All of the claims in suit are invalid because in the File History of the Weiss patent it appears that Weiss, in order to secure these claims, differentiated from the Fritz patents cited against him on the hydration feature, on the ground that his invention antedated the Fritz patents; and now it appears that a still prior Fritz patent which shows hydration and was not cited by the Patent Office, has an effective date of invention of its filing date, viz., July 12, 1922, and Weiss has failed to carry his own date of invention back of this Fritz date.

5. The claims in suit are all invalid because they constitute merely a "double use," and not patentable, over the Sprout Waldron mills, which were attrition mills with oppositely rotating disks, used for many years prior to Weiss, for grinding all sorts of materials; and it was the ordinary custom and expedient in their industry to adapt the design of grinding plates to fit the material to be ground. To use such machines merely upon different material would be "double" or "analogous" use and not patentable.

This is but the exercise of the ordinary skill in the art and "is but the display of the expected skill of the calling, and involves only the exercise of the ordinary faculties of reasoning upon the materials supplied by a special knowledge, and the facility of manipulation which results from its habitual and intelligent practice; and is in no sense the creative work of that inventive faculty which it is the purpose of the Constitution and the patent laws to encourage and to reward." Kollister v. Benedict, 113 U. S. 59.

6. Weiss cannot, by expressing his claims as process claims seek to monopolize one special use of the prior attrition mills as applied to some particular kind of wood stock. The inventor of each of the earlier machines is "entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not." (Roberts v. Ryer, 91 U.S. 150 at 157.)

7. If plaintiff insists that the Weiss claims are limited to the use of these machines on a particular material, such as certain kinds of wood, then the claims would be invalid as being for the function of the machine.

8. The Weiss patent is invalid because the sale of the seven machines in "July or August, 1922," was more than two years prior to the filing date of the Weiss application and this constitutes a statutory bar to the Weiss patent.

9. Plaintiff has not proved that defendant infringes any of the claims of the Weiss patent in suit.

(B) *Brennan Patent in Suit.*

1. Claims 2 and 3 of the Brennan patent in suit are both invalid in view of the prior art.

2. Defendant does not infringe either of claims 2 and 3 of the Brennan patent even if they were valid.

The bill of complaint is to be dismissed with costs and a decree may be entered accordingly.

The foregoing decision is reported in 31 United States Patent Quarterly 125 and in 16 Federal Supplement 443.

R. B. Renner Honored

R. B. Renner, who has been with the Jeffrey Manufacturing Company for the last thirty years as mechanical engineer, for the last twenty years at 30 Church street, New York, was recently made chairman of the executive committee of the materials handling division of the American Society of Mechanical Engineers. The function of this division of the Society is to spot, coordinate and bring before the engineering public outstanding developments in conveying machinery and its use.

Permutit Sales Manager Named

Daniel J. Saunders has been named manager of industrial sales for The Permutit Company, New York, manufacturers of water conditioning equipment. Mr. Saunders has been with the company for seventeen years and has recently been assistant manager of industrial sales.

Bleaching Kraft*

By John D. Rue[1]

It is not my purpose to present a comprehensive historical review of the progress in bleaching kraft. That has already been done in a careful and thorough manner by Opfermann and Hochberger in their book "The Bleaching of Cellulose" *(1)* published recently in Germany. Nor do I propose to offer a highly technical discussion of any recent laboratory studies. Such a discussion belongs in the technical journals where it can be studied at leisure. I do hope, however, to be able to aid in inspiring some interesting and constructive discussion by reviewing those phases of the subject of which I have personal knowledge, or with which I have had plant and laboratory experience.

In my discusson of the subject, I will use the term kraft to include not only the raw cooked brown product but also the wide potential variety of specially cooked pulps involving the use of the sulphate process.

I trust that you will keep in mind too, that kraft differs radically from sulphite in its behavior toward chorinating and bleaching reagents. Processes and conditions of operation suitable for sulphite are therefore, not necessarily directly applicable to kraft. Modifications of major importance are at times essential.

I want also right here, to say a word about color or brightness. Kraft is much darker than sulphite. The possible range of bleached shades is, consequently much greater. It is very important in any discussion of the comparative merits of different methods of procedure to specify clearly the color range of the products under consideration. Failure to do so may lead to differences of opinion that are based more on misunderstanding than on fact.

For purposes of clarity and simplicity in discussion, I shall use the term *low manila* to apply to those shades of pulp which in their paper making quality lie between unbleached kraft and unbleached sulphite and the term *bright manila* to those of unbleached or semi-bleached sulphite. The maximum of brightness of the bright manila shades may be typified by the brightness of commercially bleached soda pulp as it was made before the introduction of direct chlorination. Shades comparable with those of commercially bleached sulphites will be termed *high white.*

Low Manila Shades

Reducing chemicals such as the hydrosulphites, the sulphites and the bisulphites have a distinct brightening effect on brown kraft. They have been and probably still are being used commercially at least to a limited extent. The effect is one of brightening only and not a true bleaching and is not permanent to the same degree as that obtained with oxidizing reagents.

For most of the pulps of low manila shade the bleaching agent is calcium hypochlorite (commonly referred to as bleach liquor). The reaction even at room temperature is rapid and the time required is rarely over an hour. The product usually equals or excels in strength, the unbleached pulp from which it is made. Under some conditions the maintenance of a definite degree of alkalinity during the bleaching period is conducive to improved strength. The bleaching operation can often be conducted conveniently in beaters. When beaters are available for this purpose, the major items of cost of installation are those for making and handling the bleach liquor and for washing the pulp.

In the bleaching of kraft to low manila shades there is no justification, either technically or economically, for the introduction of more than a single stage.

High Manila Shades

As the brightness of the pulp is increased by more extensive bleaching there comes a point, probably differing with different pulps, where from the standpoint of quality and economy of chemical consumption, there is little to chose between a single and a twostage process of bleaching. Unless specifically stated to the contrary, I shall consider the first stage of any process of two or more stages, to be chlorination. Two stage hypochlorite does have advantages over single stage hypochlorite wherever two stages are better than one, but chlorination is always so far superior to hypochlorite as the first of two stages, that only chlorination need be considered except under special circumstances. The exceptions have to do with bleacheries in converting mills where it may at times be desirable to combine breaking and bleaching in the interest of low cost of installation.

As the brightness of the manila shade is increased the advantages of the two stage process become more pronounced. For the brighter shades which must be combined with high strength two stage bleaching is imperative.

As the brightness of the manila shade is increased it becomes increasingly important also that the degree of alkalinity be controlled throughout the hypochlorite stage. Just what the pH should be probably depends on the individual pulp and on local operating conditions. In general, though, it is safe to suggest that the pink color obtained with phenolphthalein should fade out at about the time the bleaching period is ended. A lower degree of alkalinity is likely to result in some loss in strength and a higher degree in a reduction in the rate of bleaching. Where the facilities admit of long bleaching periods without sacrifice of the desired rate of output, the reduced rate of bleaching may be an advantage.

Kraft pulps as usually made for brown products are rarely disintegrated and screened in the pulp mill with sufficient care completely to remove fiber bundles. In the subsequent paper making operations the bundles are disintegrated in the drastic jordaning given the pulp. If, however, the pulp is bleached before it goes to the paper mill, the fiber bundles may give rise to some difficulties especially when a chlorine hypochlorite process is used. The chlorination reaction is very rapid and the available chlorine is largely consumed before the bundles can be penetrated. The result is bundles of unchlorinated or only slightly chlorinated fibers which in the subsequent hypochlorite stage are only partially bleached. Experience has shown that in the bleaching of such pulps a cleaner and more uniformly bleached product is obtained by passing the brown pulp through a refiner just ahead of the chlorination stage. The refining can be very vigorous and reasonably complete without hydrating the pulp to a slowness that will reduce excessively the capacity of the washer.

Refining the pulp as a preliminary to single stage semi-bleaching to low manila shades may also be an advantage

* Presented at the meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry, Conway Hotel, Appleton, Wis., Jan. 12, 1937.

[1] Member TAPPI, Hooker Electrochemical Company, Niagara Falls, N. Y.

although the ill effect of under-bleached fiber bundles is not likely to be as great as in the case of pulps of higher shades.

High White Shades

There have been many problems to solve in connection with the production of kraft pulps of high manila shades. The real problems, though, have been those encountered in an effort to produce pulps having the brightness of sulphite coupled with the strength of brown kraft. Marked progress has been made within the past two or three years but there are still enough problems left to challenge the ingenuity of many investigations.

Kraft as usually made contains a large amount of iron carried along with the pulp in the form of iron sulphide or rust from the digesters and wet room equipment. When brought into the acid condition of the chlorination stage the insoluble iron is dissolved to ferric compounds which fix themselves to the fibres and lend to them a yellowish tint that is difficult to remove in the bleaching process. Moreover, the iron salts act as catalysts for reactions which result in reduced strength of the pulp and thus limit the extent to which the bleaching operation can be pushed in the interest of high color.

The result in any case is low color or low strength or both.

The obvious answer is to use non-corrosive materials for the construction of the pulp mill equipment and to eliminate particles of metals and metal oxides as far as possible by adequate screening and riffling. This again presupposes more uniform and more complete defibering in the digesters. Refining as preliminary to bleaching is not recommended for pulps of the highest grade and greatest freedom from dirt specks.

Another obstacle to the attainment of a high white shade has been the dyes now understood to be sulphur derivatives of compounds related to the phlobotannins. These compounds give the unbleached pulp its brown color. They bleach with some difficulty and then only to a light straw color so that the bleached kraft product has a distinctly yellowish tint.

Elimination of the sulphur dyes involves in part modification in the cooking process and in part an extraction with hot caustic soda at some stage in the subsequent purification and bleaching processes.

The dyes are to a limited extent soluble in hot caustic soda. In the kraft digestion as usually carried on the caustic concentration is allowed to drop to a low value toward the end of the cooking period. The extracted dyes are then readsorbed by the fibers. If, however, the concentration of caustic be kept high throughout the cooking period, the dyes remain to a larger degree in solution and can be washed out of the pulp. The cooking is then conducted at a lower temperature and preferably for a longer period and the quantity of caustic as well as the volume of liquor in relation to the wood is greater than for kraft of standard grades. Also the rate of output per digester unit is reduced. Provision must be made therefore for digester capacity in excess of that commonly used for brown kraft.

Having reduced the dye content as far as practicable in the pulping operations, it is still necessary to resort to a subsequent extraction with caustic. It has been found practicable to insert an extraction stage between the chlorination and the hypochlorite stages. The use of one or two percent (20 to 40 pounds per ton) of caustic soda at 50 to 60 deg. C for 1 hour or more, results in greatly improved color and in reduced chlorine consumption.

More drastic treatments by increasing the concentration of caustic by raising the temperature or by lengthening the period of reaction or by various combinations of these procedures, will result not only in a more thorough removal of the obnoxious dyes but if carried to a sufficient degree will reduce the non-alpha constituents and develop in the product a greater degree of softness, opacity and absorbency as well as a higher alpha content. These qualities are obtained, of course, at the price of larger chemical consumption and lower yield of product.

In its simplest form then a kraft bleachery for the product of high white, high strength pulp will consist of three stages: 1. chlorination. 2. caustic extraction. 3. hypochlorite. In the interest of chemical economy and especially of the attainment of an exceptionally white product either chlorination or hypochlorite treatments, or both may be split up into two stages. The bleachery may therefore take the form of a five stage process: 1. chlorination. 2. chlorination. 3. caustic extraction. 4. hypochlorite. 5. hypochlorite.

Another factor of vital importance to the producer of high white kraft pulps is the permanence of color of his product. Bleached kraft pulps are notorious for their tendency to revert in color with time in storage. This is true both of the pulps and of the papers made from them. The reversion in color appears to be associated with bleaching residues not thoroughly removed from the bleached fibers. For the attainment of permanence of color it is apparently necessary not only to wash the product of the last stage very thoroughly, but also to place the fibers in a state that permits rapid diffusion of impurities out of them and to provide adequate soaking time for that diffusion. Experience indicates that the removal of the final impurities is effected more readily in slightly acid than in alkaline media. It is desirable therefore, to adjust the pH to slightly less than 7, say 6.8 or 6.9—either before or after the final wash. From the last stage washer the stock should be allowed a period for diffusion of the impurities from the fibers into the suspending water. The adjustment of pH can be made with acid or preferably with chlorine water.

The control of alkalinity throughout the hypochlorite stages is as important for four and five stage bleaching as it is for two stage processes. Beyond that no special comment need be made here with reference to the hypochlorite stages.

Chlorination Stages

From the standpoint of the chemical reaction and of the quality of the finished product there appears to be little to choose between chlorine gas, chlorine liquid, chlorine water or hypochlorous acid. The important thing is to get in the correct quantity, get it mixed promptly with the pulp and have the correct period of acid reaction.

Much has been said during the past two or three years and little need be added here with regard to the various methods of applying the chlorine. There are the various batch methods, some in deep tanks with vertical travel of the stock and some in rather shallow tanks with horizontal travel of the stock. Then there are the continuous methods with one of which the writer has had extensive and favorable experience. Perhaps he may be pardoned, therefore, if he devotes a disproportionate share of the discussion to those methods with which he is best familiar.

It has been our experience in two stage bleaching that the proportioning of chlorine to pulp in the chlorination stage is of the utmost importance if a kraft product of high strength is to be obtained. In the production of bright manila shades by two stage processes the chlorine should be added to the chlorination stage in such proportion that not more than 1 per cent available chlorine, based on the pulp, is required in the subsequent hypochlorite stage. Progressively increasing the proportion used in the first

stage progressively increases the strength of the final product. But we find these favorable results only provided the acid reaction period does not exceed about 30 minutes. For purposes of accurate control in continuous chlorination processes, this period may be reduced to 5 minutes.

At the end of the acid period the residual available chlorine is converted to hypochlorite by the addition of lime. A subsequent period of 1 to 1½ hours is then required for the consumption of the available chlorine.

Attempts to extend the acid period to substantially complete exhaustion of the chlorine has always, in our experience, resulted in a failure to attain the maximum strength of final product. Either the proportion of chlorine added was small and the period reasonable, or the proportion was larger and the period too long for satisfactory results. This was true regardless of whether or not lime was used to neutralize the chlorinated stock before washing.

Our recent investigations indicate that the conclusions reached in a study of two stage bleaching, with regard to the value of a high proportion of chlorine in the chlorination stage combined with a short acid period apply with equal force to three and four stage processes, i.e. chlorine-caustic-hypochlorite and chlorine-caustic-hypochlorite-hypochlorite processes. In all cases the superior quality is obtained at the expense of an increase in chlorine consumption. The increase is greater as the brightness of the final product is increased and may reach as much as 20 pounds or more per ton of pulp when compared with processes using long acid chlorination followed by a wash without previous neutralization.

It has been found, however, that maximum quality combined with economy in the consumption of chlorine can be obtained by chlorinating in two stages. The first chlorination can be a short one limiting the quantity of chlorine to an amount that can be absorbed in not to exceed ten minutes. After an acid wash the second chlorination follows in which the quantity of chlorine is adjusted so that after adding lime at the end of five minutes of acid reaction a period of 1 to 1½ hours is required for exhaustion of the hypochlorite thus formed. The process then consists of five stages: chlorine-chlorine-caustic-hypochlorite. and is capable of producing bleached kraft having the brightness of bleached sulphite and at the same time a strength which equals the original brown kraft in mullen and fold and which falls only slightly short of it in tear.

There are, of course, other properties besides strength which are important to the paper maker. For some grades softness, opacity and absorbency are essential. So far as we have been able to learn, experience with bleached kraft pulps from a wide variety of sources has indicated in general that in softness and opacity the krafts are not quite equal to the sulphites. These defects can probably be corrected by applying more drastic conditions to the caustic extraction stage, but we must not forget at the expense of a larger consumption of chemicals and of a greater loss in pulp yield. To what extent the improved qualities in the pulp will justify the added expense in obtaining them remains still to be determined.

Why Bleach Kraft?

Anyone concerned with the management of kraft mills or with the possible installation of new ones will be confronted with the question, why bleach kraft? Satisfactory answers seem already to have been found. Kraft is being bleached in the north, in the south and in the far west. Bleached kraft pulps of foreign origin are finding successful application in the making of domestic papers. Perhaps more convincing still is the fact that new kraft mills are being installed for the production of bleached products and that these are being located both in the south and on the Pacific Coast. Significant too, is the fact that some of these installations are designed for the production of grades comparable in color with the bleached sulphites.

We believe that the answers to the question, why bleach kraft? can be summarized briefly about as follows:

1. Kraft can be bleached to high manila grades which in strength, color, cleanliness and cost of production, are superior to unbleached sulphites.
2. Kraft can be bleached to high white grades which in strength and cost of production equal or excel bleached sulphites of comparable brightness of color.
3. Kraft can be bleached to high white grades whose strength is so outstanding in comparison with other available chemical wood pulps of equal brightness that they really constitute a new raw material for paper making that is likely to give rise to a new group of paper products.

We believe we are correct in assuming that with the same wood and in the same locality, the cost of unbleached kraft will differ from that of unbleached sulphite by not more than 5 per cent. Typical of this condition is the manufacture of these grades on the Pacific Coast from Western hemlock. For the manila shades the kraft must be semi-bleached to compete in shade with unbleached sulphite. For the high white shades the kraft as compared with sulphite, requires a more complicated bleaching process and larger quantities of chemicals per unit of pulp produced. It is at once evident that under these conditions the bleached kraft grades cannot be considered sound economic substitutes for the sulphite grades produced locally. In those cases the bleached kraft grades must find their justification in superior quality and that is not difficult to find in the high strength and toughness which characterize them.

In the south we find a somewhat different situation. There the kraft process flourishes on the various species of pine. Those species have not found favor with the manufacturer of sulphite. There the costs of wood and of conversion into pulp are relatively low. Those costs the manufacturer of sulphite has not been able to duplicate unless it may be on the Pacific Coast which is at some disadvantage in eastern markets by reason of relatively high transportation costs. The transfer of the manufacture of unbleached sulphite grades of paper from the northern sulphite mills to the southern kraft mills has already begun.

The production from bleached kraft of white papers which hitherto have been considered dependent on bleached sulphite, is already under way both in the north and in the south. Expansion in the production of such grades of bleached kraft is already active in the south.

However, we believe the great future of the bleached kraft industry lies in the production of paper grades which have not been possible with chemical wood pulps hitherto available or for which other fibrous raw materials are too limited and too costly. To the strength and toughness and serviceability of brown products such as wrapping and bag papers, boxes and shipping containers of all sorts can be added the aesthetic and advertising value which brightness and attractiveness of color give them. Of outstanding importance in the manufacture of high white, high strength products are the papers for packaging sugar, flour and similar food products. These are only a few of the great potential list of bleached kraft products which we may expect to result from the vigorous activity of sales and development departments and of research laboratories during the next few years.

Literature Cited

(1) Die Bleich des Zellstoffs, Vol. II, pages 281-300, Otto Elsner Verlagsgesellschaft (1936).

Some Developments in Improving the Quality of Chemical Wood Pulps*

By John D. Rue[1]

In selecting this topic, I realize that you of the Ohio Section of TAPPI will be interested chiefly as consumers rather than as producers. You have your own problems in the conversion of the chemical wood pulps to paper but you may find some value in a brief consideration of those pulps from the viewpoint of the producer. After all the success of the producer insofar as he places the pulp on the market, must be measured by the degree to which he succeeds in meeting the demands of the consumer for quality. Insofar as he is himself a converter his progress is of vital concern to you as competitor consumers.

Industrial conditions during the past few years have contributed toward distinctly higher standards as regards the brightness and cleanliness of some grades of papers and as regards the strength of others. Methods of testing have been refined and tolerances in specifications have been narrowed. This is a situation that naturally has put the pulp producer on his metal. He has been under the necessity of improving the color, cleanliness, strength and uniformity of quality in his product, and he has succeeded to a marked degree. I would like to consider with you some of the elements which have contributed toward that success.

Sulphite

Sulphite constitutes a very important part of the supply of chemical pulps which you use. The methods of manufacture of sulphite have during recent years undergone several changes, which are responsible for improved quality. Effective knot borers are now being used which remove from the log much of the material which if left in, persistently resists the action of the sulphite cooking liquor and even of the bleaching reagents and appears as dirt in the pulp. Chip dusters aid in freeing the chips of bark and knot particles which are a fruitful source of dark specks. Those innovations are indicative of the effort to correct the trouble at the source.

Another cause for dirty pulp is uneven cooking throughout the digester as a result of poor circulation and of the formation of bundles of incompletely cooked pulp. The bundles persist as brown shives or even when bleached as shiners. This condition has been much improved by the impregnation of the chips with hot acid and by setting up positive circulation during cooking by means of pumps. The successful application of forced circulation to the sulphite digester has been accelerated by the development of suitable corrosion resistant alloy steels.

So long as there existed great irregularities throughout the digester it was necessary to set up conditions of operation which would avoid difficulties that arise from extremely unfavorable local conditions. As the range of irregularity was limited the conditions of operation could be set more nearly to those required for maximum strength without danger of some undercooked portion of the charge. The net result has been stronger pulp without necessarily sacrificing ease of bleaching or cleanliness.

Impregnation of the chips with hot liquor also tends toward a desired uniformity of product.

The number of mills equipped with facilities for hot impregnation of the chips and for forced circulation is growing.

There is also some indication of commercial operation at increased pressures during digestion which means higher concentrations of SO_2. This is claimed to result in pulps of superior quality.

The introduction of the chlorine number or the permanganate number as a means of characterizing an unbleached sulphite pulp, has been of distinct help to both producer and consumer by setting up specifications that can serve as a guide in manufacture and as a basis for clssification in use.

Bleached Sulphite

The demand for brightness in the papers has extended back to the bleached sulphite pulps which go into their furnish. The answer to that demand has been found in large measure in direct chlorination of the pulp prior to the bleaching stage.

It is not long since the bleaching of sulphite, in almost every case, consisted merely of a single stage of hypochlorite. A few mills sought economy or quality through dividing the hypochlorite into two stages but the added cost was considered by many to be not justified by the improvements obtained. The introduction of high density bleaching resulted in some economies in operation and in distinct improvement in cleanliness. It is now regarded by many as standard practice. But the outstanding improvement in color and strength, as well as economy of operation came with the introduction of direct chlorination as a purification stage preceding one or more stages of hypochlorite.

The development of a rugged glass electrode type of electrometer for the measurement of the pH of oxidizing solutions has recently revealed the importance of controlled alkalinity during the hypochlorite bleaching period as a means of producing pulps of high strength and high brightness. I believe it will also be a factor in the production of clean pulps.

Anyone who is in the market for bleached sulphite pulps cannot but be impressed with the extent to which the sulphite industry has gone over to the production of pulp for viscose rayon manufacture. The growth of the sulphite rayon pulp production has without doubt been accelerated by the improvements which have been made in the control of pulping and bleaching processes. Cupramonium viscosity, copper number, alpha content, ash, etc. can now be held within narrow limits and can be varied as desired. The progress made along these lines has probably been even greater than along the lines of pulps for paper manufacture.

Kraft

The development of the manufacture of kraft pulps has been phenomenal in this country. It is only 30 years since its introduction to the American continent. It was promptly extended to the south, but for a long while the southern

* Presented at the meeting of the Ohio Section of the Technical Association of the Pulp and Paper Industry, Anthony Wayne Hotel, Hamilton, Ohio. Jan. 9, 1937.

[1] Member TAPPI, Hooker Electrochemical Company, Niagara Falls, N. Y.

pine was considered inferior to the northern species for brown kraft papers.

For the past several years the quality of the southern product has been so far improved that expansion has taken place almost exclusively in the south. The past year has seen exceptional activities in this direction. It seems likely, on the basis of the announcements of new plants, that within the next two years the production of kraft in the south will exceed 6,000 tons daily. The brown products will go into the manufacture of bag and wrapping papers and of container liners besides a variety of specialties.

Bleached Kraft

Most striking, however, are the developments in the bleaching of the southern kraft pulps. I shall use the term kraft to include all grades of sulphate pulps whether hard or soft or made especially for bleaching. The term kraft is less apt than sulphate to be confused with sulphite.

We have become familiar with some highly purified white kraft pulps in the north and in some of the products imported from European countries. The southern pine kraft, however, is not far behind. Already semi-bleached products and papers having shades brighter than unbleached sulphite papers, are recognized products of bleached southern pine kraft. Already bleached southern pine kraft is indicating possibilities even as a substitute for bleached sulphite. At least two new mills are being built on the assumption that such a substitution is not only possible, but practicable.

On the Pacific Coast also the bleaching of kraft to a product of high white and high strength is taking concrete form.

But what of the economics of bleached kraft pulps? Insofar as bleached sulphite and bleached kraft are made from the same wood and in the same locality, substitution of kraft for sulphite appears to be uneconomical. Bleached sulphite from Western hemlock, for example, can probably be made more cheaply than bleached kraft from that wood species.

However, there are localities where wood and conversion costs are low and where the sulphite process is not well adapted as is the kraft process for pulping the species locally available. Under such circumstances bleached kraft can and probably will come into competition with bleached sulphite insofar as the properties are interchangeable. I emphasize the last proviso for the reason that it has, I believe, been rather general experience that bleached kraft as currently produced lacks the softness and opacity and possibily the absorbency of sulphite. Future developments may and probably will correct these deficiencies.

In any case bleached kraft can be made with the color of some bleached sulphites even though the blue white of the very bright grades seems at present unattainable at reasonable cost. These pulps are characterized by a strength which may be distinctly superior to sulphite. They have a reason for existence on their own account and can fill a need for which bleached sulphites are inadequate. For example there is a growing need for paper bags in which to ship such food products as flour, sugar, etc. which call for the attractiveness which a bleached pulp can give and at the same time a strength and toughness which only kraft can supply.

The bleaching of kraft to low manila shades offers no difficulty. A single stage of hypochlorite at low temperature accomplishes the result in a comparatively short time so that the equipment required is not extensive. In strength the product equals or excells the unbleached pulp.

For papers having the brighter manila shades, such for example as those normally made with unbleached sulphite, kraft must be bleached in two stages if both color and strength are to be combined. The first stage should be chlorination and the second hypochlorite. As the shade is brightened, the necessity, both technically and economically, for the chlorination stage becomes progressively more important.

For shades approximately those of bleached sulphites the problem of bleaching kraft becomes increasingly difficult. Kraft pulps are characterized by the presence of compounds which presistently resist the bleaching action and contribute to the product a slight yellowish tint which does not yield to chlorination or oxidation under any conditions consistent with high strength in the bleached product. These compounds appear to be related to the phlobotannins with which the sulphides of the cooking liquors form stable sulphur dyes. Fortunately the compounds are to some degree soluble in caustic alkali. They can, in part, be removed in the cooking process by maintaining a concentration of active alkali greater than normal for standard kraft by cooking at lower temperatures for longer periods and with larger volumes of liquor.

Still further portions of these troublesome compounds can be removed by extraction with caustic alkali in connection with the bleaching processes, especially following the removal of the lignin and similar impurities by direct chlorination. The pulp after chlorination and extraction with caustic has its bleachability so far reduced that a mild hypochlorite bleach is adequate to the production of high color without excessive loss in strength. Of course there may be in some cases reasons both technical and economic for chlorinating in more than one stage and for bleaching in more than one stage of hypochlorite. But in any case, the caustic extraction is essential.

The more drastic the caustic extraction, as determined by concentration, temperature and duration, the more the product can be brought toward a pulp of high alpha content. Increasing the drasticity of the caustic extraction can be made to increase softness, opacity and absorbency, but at an increase in cost.

Soda

Soda pulps are used to only a very limited extent in their unbleached state. For the most part they are made from short fibered woods such as poplar, gum, beech, birch, maple, etc., and are used primarily for their opacity and for their ability to give good formation by reason of their shortness and fineness of fibre. Strength has been of secondary importance and difficulties in the attainment of color have to some extent been overcome by over-bleaching.

Recently, however, the demand for brightness has increased. Single stage hypochlorite bleaching even when forced with a sacrifice of fiber strength has been unable to produce the desired results. The answer to the problem has, as in kraft, been found in a chlorination stage which purifies the fibers prior to the hypochlorite bleaching stage.

Semi-Chemical Pulps

By semi-chemical pulps we mean those which have been made by subjecting the chips to a mild digestion which is inadequate for defibering and then reducing the softened chips by mechanical means. Pulps of this category have had significant development in two fields; one, in the production of a corrugating board and the other in the production of a high yield, sulphite pulp suitable for newsprint.

The corrugating board is made chiefly from extracted chestnut chips with a solution containing sodium carbonate, sodium bicarbonate and sodium sulphite and has become a recognized standard of quality for those grades of board.

It came as the first important competitor with straw board. It is significant that the application of semi-chemical cooking principles to straw has resulted in improvements in that industry so that strawboard has itself also been placed on a higher standard of quality.

The production of high yield sulphite pulp is reported to have been placed on a commercial scale, but its development has not yet reached a point to establish clearly the technical and economic factors of the product. It seems to offer special possibilities in the manufacture of newsprint by reason of its low cost as compared with the usual news grades of sulphite.

Bleaching Processes

Chlorine by reason of its low cost has always been and still is the most important material in the bleaching of chemical wood pulps. For a long time it came to the pulp manufacturers in the form of bleaching powder. The chlorine was absorbed by dry hydrated lime at the plant of the chlorine manufacturer. The product carried about 15 per cent free lime as a means of stabilization.

Following the World War liquid chlorine became a recognized article of commerce that was easy to obtain and handle and relatively low in cost. Within a period of less than ten years nearly all pulp mills had ceased to buy bleaching powder and were buying liquid chlorine which was absorbed in lime milk at their own plants. The chlorine was almost all used, however, in the form of hypochlorite.

The next eight or ten years brought the application of chlorine directly to the pulp as a means of purifying the pulp especially by the removal of lignin at low temperature and at a rapid rate, prior to the hypochlorite bleaching stages. As we have seen in the earlier part of this discussion direct chlorination has now become an important factor technically and economically in the bleaching of sulphite, kraft and soda pulps.

The rapid progress made in chlorination during the last few years has been in part due to the improved materials available for the construction of chlorinators and auxiliary equipment. Rubber linings for steel are now recognized as durable and economical and at the same time light in weight and rigid in construction. Tile linings are also available and have been made satisfactory by the development of suitable cements for setting them up. Chrome-Nickel-molybdenum alloys are obtainable which are reasonably resistant to the wet chlorine and acid. While rather costly they are suitable for valves and injector parts that must resist that type of corrosion. For dry chlorine, gas or liquid, the usual grades of steel pipe and fittings are adequate. Some of the silicon iron alloys are serviceable under some conditions, especially where the corrosive attack is not too drastic. Mention should be made too, of the special paints and coatings which are available and which offer fair resistance to corrosion. For the most part these coatings contain a chlorinated rubber base and have found many valuable uses in connection with chlorination.

There are now several methods of chlorination in commercial use. They all depend on getting the chlorine into the pulp as quickly as possible without escape of the gas into the air. The rate of reaction of chlorine with pulp is very rapid. It is evident then that prompt and thorough mixing is an important factor to successful chlorination. The methods differ in the type of chlorinating vessel and of its agitating facilities and in the manner of injecting the chlorine and mixing it with the pulp. Some are batch and some continuous. We have, e.g.:

Deep tanks—wood or tile or tile lined concrete—provided with central draft tube. Agitation down the draft tube and up through the annular space is maintained by propeller or pump impeller. Chlorine gas is injected at or near the point of greatest turbulence. The depth of the tank is such that the bubbles are absorbed before they reach the surface.

In shallow vessels—as e.g. bellmers—the depth of stock is too small to provide absorption of large bubble of chlorine gas. The chlorine is therefore dispersed into small bubbles in an injector by means of a high velocity water jet.

The above are operated batchwise and weighed quantities of chlorine are passed through an evaporator and injected into batches of known quantities of pulp. For accurate control the chlorine requirement of the pulp must be determined before measuring out the chlorine.

There are several continuous methods of chlorination which fall for the most part into two classes. Those in one class depend on power driven agitators to mix the chlorine (gas, liquid or water solution) and pulp. The stock is then passed through a tower of sufficient size to allow the time necessary for the requisite acid chlorination reaction. The tower may be relatively narrow and with no agitation, or it may be relatively broad in which case agitation is essential to prevent channelling.

A representative of another class depends on turbulence set up by the flow of stock against fixed baffles to effect mixing of stock and chlorine. In this case the power is applied to the pump delivering the neutral stock to the chlorinator rather than to a separate mixer acting in the mixture of stock and chlorine.

For accurate control of continuous processes the chlorine requirement must be predetermined and the rates of flow of both stock and chlorine must be known and under control. There is one exception to this rule. In one process there is provided a short preliminary retention period of about 5 minutes, at the conclusion of which the stock is sampled for residual chlorine. The rate of flow of chlorine is adjusted from time to time so as to maintain a uniform concentration of residual chlorine. The result is a chlorinated product having a bleachability which varies within very narrow limits. It is evident then that under these conditions of operation, accuracy of control can be attained without the necessity of knowing the chlorine requirement of the pulp or the rates of flow of either stock or chlorine. A supplementary retention period can be provided if needed.

Another interesting development has been the rubber protected washers of the vacuum type which have made it possible to wash chlorinated pulps which have not been previously neutralized with alkali. Pulps so chlorinated can be bleached with an overall chlorine consumption distinctly less than those which have had the chlorinated stock neutralized before washing.

Omission of the alkali can be recommended for both sulphite and soda pulps by reason of the economy effected. The retention period for acid chlorination need not exceed one hour and may in some cases be somewhat less.

If rubber lined washers are not to be used the chlorinated stock should be neutralized before washing.

In the case of sulphite chlorinated continuously a five minute reaction period is in many cases adequate. The addition of the alkali sets up another type of reaction which for a short period proceeds rapidly and results in prompt exhaustion of the available chlorine left unconsumed at the end of the acid period. The neutralized chlorinated stock can then go directly to the washer without a supplementary retention period.

For the maximum quality of sulphite, the proportion of chlorine used for chlorination should be increased to the point that only about 0.5 per cent of available chlorine

(based on the pulp) is required in the hypochlorite stage. However, when the chlorination is forced to that degree the pulp may be noticeably dirty unless the unbleached pulp is exceptionally free from particles, especially those originating in the inner bark or around knots; or unless the conditions of hypochlorite bleaching are favorable to the removal of dirt; such conditions—e.g., as high density or long bleaching period.

Kraft differs radically from sulphite, in its behavior towards chlorination. Absorption of chlorine to a degree commensurate with maximum strength properties of the bleached product requires periods of acid reaction for exhaustion of the chlorine so great that deterioration of the fibers, from a paper making standpoint, occurs. It has been found advantageous in some cases to force the chlorination and then to add alkali before the chlorine has been exhausted. Residual chlorine is converted to hypochlorite which continues to react during the remaining period without prejudice to the ultimate strength of the pulp.

It is generally conceded that the sodium salts of the chlorinated products are more soluble than lime salts. More complete removal of those products may be expected by washing pulp neutralized with caustic soda than with lime. I believe there is some evidence to substantiate this view. However, from a pulp making point of view it is interesting to note that our experience has been that as far as color and strength of pulp and economy of chlorine consumption are concerned, lime is as satisfactory a neutralizing agent as caustic soda and certainly far less expensive.

The methods used for carrying on the hypochlorite stages for kraft are substantially the same as those for sulphite and soda. Emphasis should be placed, however, on the importance of correctly controlled alkalinity during the bleaching period. This is much more vital to the strength of the finished product in the case of kraft than of sulphite. Just what the pH should be must be determined by experience with the various pulps. In general, the phenolphthalein test should not completely disappear before the end of the bleaching period. On the other hand, too high a pH, while perhaps favorable to strength of product, will greatly retard the rate of bleaching and with limited equipment unduly limit the rate of production.

Conclusion

In conclusion let me express the hope that this review, brief and incomplete though it is, may help toward a greater appreciation of the effort which the manufacturers of chemical wood pulp have made during recent years to improve their products. Not a little of the success of those efforts must be ascribed to the spirit of cooperation which has marked the relationship of producer and consumer. Not only have the usual pulp grades been brought to higher standards of quality but new products have found their way into the markets. And, we may feel confident, there is more to follow.

Pacific TAPPI Meets in Vancouver

The Pacific Section of the Technical Association of the Pulp and Paper Industry met in Vancouver, B. C., on February 7, 1937. Andreas Christensen of the British Columbia Pulp and Paper Company presided as chairman. There were 124 present.

Lawrence Killam, president of the British Columbia Pulp and Paper Company extended greetings. Ray Onkels, superintendent of the Westminster Paper Company and chairman of the Pacific Division of the Superintendents' Association was introduced, as was Clarke Marion of the Champion Paper and Fibre Company.

Prof. F. Malcolm Knapp of the University of British Columbia, talked on the subject "Can British Columbia Meet Future Pulp Wood Requirements?"

I. H. Andrews, control superintendent of the Powell River Company, Powell River, B. C., discussed tests for strike through resistance and ink-absorption of newsprint.

The next meeting will be held at the Olympian Hotel, Olympia, Wash., on March 2nd. A. G. Ziema of the Research Department of the International Nickel Company will discuss "The Properties of Alloys, Especially in the Pulp and Paper Industry."

Following are those who were present:

Jerry Alcorn, Weyerhaeuser Timber Company, Everett, Wash.; Geo. W. Allen, Canadian Sumner Iron Works, Vancouver, B. C.; I. H. Audrews, Powell River Company, Ltd., Powell River, B. C.; W. A. Anderson, Gordon & Belyea, Vancouver, B. C.; John Ashby, Westminster Paper Company, New Westminster, B. C.; Harold Atkinson, Quatsino Navigation Company, Ltd., Vancouver, B. C.; A. E. Baker, British Columbia Pulp and Paper Company, 602 Hast. W., Vancouver, B. C.; W. A. Bain, British Columbia Pulp and Paper Company, Ltd., Woodfibre, B. C.; B. A. Bannan, Western Gear Works, Seattle, Wash.; P. D. Bannerman, McLennan, McFeeley & Prior, Ltd., Vancouver, B. C.; E. E. Brennan, British Columbia Pulp and Paper Company, Ltd., Woodfibre, B. C.; C. W. Brockley, C. W. Brockley & Co., Vancouver, B. C.

Wm. E. Carr, Norwich Agencies, Ltd., (Vocalist) Insurance, Vancouver, B. C.; Andreas Christensen, British Columbia Pulp and Paper Company, Ltd., Vancouver, B. C.; T. C. Clarke, Manager,, Northern Electric Company, Vancouver, B. C.; T. H. Crosby, Manager, Canadian Westinghouse Company, Ltd., Vancouver, B. C.; B. G. Cross, Canadian Ingersoll-Rand Company, Ltd., Vancouver, B. C.; H. A. Boerr, Dominion Rubber Company, Vancouver, B. C.; R. E. Drane, St. Helens Pulp and Paper Company, St. Helens, Ore.; F. Drexel, Vancouver, B. C.; Bernard Dunell, North Lonsdale, B. C.; A. R. Dyrsmid, Pacific Mills, Ltd., Vancouver, B. C.; F. P. Forsyth, Dominion Rubber Company, Vancouver, B. C.; A. F. Frattinger, Canadian Allis-Chalmers, 1065 Pender, West, Vancouver, B. C.; Fred H. Fullerton, Pulp and Paper Magazine of Canada, 3994 West 35th Ave., Vancouver, B. C.

Stanley C. Gale, General Equipment, Ltd., 319 W. Pender St., Vancouver, B. C.; E. H. Gennis, Pacific Meat Company, Ltd., Vancouver, B. C.; William R. Gibson, Shibley Company, Seattle; H. P. Godard, University of British Columbia Student, Vancouver, B. C.; W. S. Greenhill, White Pine Co., Vancouver, B. C.; W. C. Grieve, Goodyear Tire and Rubber Company, Ltd., 1004 Hamilton Street, Vancouver, B. C.; Don H. Guild, Huntington Rubber Mills, 3425 15th Ave. So., Seattle, Wash.

D. Hamilton, Weyerhaeuser Timber Company, Pulp Division, Everett, Wash.; R. C. Hardie, Canadian General Electric Company, Ltd., Vancouver, B. C.; F. H. Hedley, Canadian Westinghouse Coompany, Ltd., Vancouver, B. C.; J. B. Holdcroft, Pacific Coast Pipe Company, Ltd., Vancouver, B. C.; Albert Hooker, Hooker Electrochemical Company, Tacoma, Wash.; H. H. Horne, Steam Engineer, Vancouver, B. C.; K. L. Howe, Westinghouse Electric and Manufacturing Company, Seattle, Wash.; G. D.

Humphrey, British Columbia Pulp and Paper Company, Ltd., Vancouver, B. C.; A. J. Hutchinson, British Columbia Plumbing Supplies Company, Vancouver, B. C.

A. G. Ingram, Hartford Steam Boiler Inspection and Insurance Company, Seattle, Wash.; E. J. Jardisce, The W. H. Malkin Company, Ltd., Vancouver, B. C.; Walter Johnson, Crane, Ltd., Vancouver, B. C.; Leo C. Kelley, British Columbia Pulp and Paper Company, Ltd., Woodfibre, B. C.; W. U. Kelly, Sr., Vancouver, B. C.; Robert L. Kennedy, A. R. Williams Machinery Company of Vancouver, Ltd., 495 Railway Street, Vancouver, B. C.; B. L. Kerns, Westinghouse Electric and Manufacturing Company, Seattle, Wash.

A. W. Ker, Gordon & Belyea, Vancouver, B. C.; John Ross Kerr, McLennan, McFeeley & Prior, Ltd., Vancouver, B. C.; Arthur S. Killam, Fleck Bros., Ltd., Vancouver, B. C.; Lawrence Killam, British Columbia Pulp and Paper Company, Ltd., Vancouver, B. C.; F. Malcolm Knapp, Department of Forestry, University of British Columbia, Vancouver, B. C.; Harold Knight, University of British Columbia Student, Vancouver, B. C.; Gunner Knudsen, Canadian Transport Company, Metropolitan Building, Vancouver, B. C.; S. A. Lake, Vancouver, B. C.; Lloyd Lang, Chemical Construction Corporation, New York City; T. N. Louden, Gordon & Belyea, Ltd., Vancouver, B. C.; A. H. Lundberg, Seattle, Wash.

J. M. MacAdam, Marshall Wells British Columbia, Ltd., 573 Corrall Street, Vancouver, B. C.; C. C. Macdonell, British Columbia Pulp and Paper Company, Ltd., Woodfibre, B. C.; F. W. MacNeill, Canadian General Electric Company, Vancouver, B. C.; G. H. McGregor, Weyerhaeuser Timber Company, Pulp Division, Longview, Wash.; Bob McPhail, W. McPhail and Sons, Brass Founders, Vancouver, B. C.; Clarke Marion, Champion Paper and Fibre Company, Hamilton, Ohio; J. W. Martin, Schorn Paint and Manufacturing Company, Seattle, Wash.; G. F. Mitchell, Hesse Ersted Iron Works, Portland, Ore.; Harold S. Muckelt, British Columbia Equipment Company, Ltd., Vancouver, B. C.; J. Murdoch, Canadian Pacific Railway, Vancouver, B. C.; Gerald Myers, Pacific Coast Pipe Company, Ltd., Vancouver, B. C.; R. C. Onkels, Westminster Paper Company, New Westminster, B. C.; W. J. Otis, British Columbia Conveying Machinery Company, 123 W. Pender, Vancouver, B. C.

W. R. Payne, British Columbia Pulp and Paper Company, Ltd., Vancouver, B. C.; R. S. Parry, Chess Bros., Ltd., Vancouver, B. C.; Arthur Pearson, Structural Engineer, Vancouver, B. C.; J. W. Packham, The Bristol Company, Seattle, Wash.; Rowland Pike, Simonds Canada Saw Company, Ltd., Vancouver, B. C.; Albert S. Quinn, Stebbins Engineering and Manufacturing Company, 1201 Textile Tower, Seattle, Wash.; C. Radcliffe, Westminster Paper Company, New Westminster, B. C.; L. G. Rayner, Industrial Timber Mills, Ltd., and Hammond Cedar Company, Ltd., Vancouver, B. C.; Carl F. Richter, Stebbins Engineering and Manufacturing Company, Watertown, N. Y.; A. R. Ripley, Goodyear Tire and Rubber Company, Ltd., Vancouver, B. C.; J. Robertson, Dominion Bridge Company, Vancouver, B. C.; G. H. Rudkin, British Columbia Pulp and Paper Company, Ltd., Woodfibre, B. C.

Frank Sawford, Structural and Mechanical Engineer, Vancouver, B. C.; Harlan Scott, Pacific Pulp and Paper Industry, Seattle, Wash.; Jim Scott-Fairley, Vancouver, B. C.; A. Martin Shanahan, Shanahans, Ltd., Vancouver, B. C.; Fred C. Shaneman and Brian Shera, Pennsylvania Salt Manufacturing Company, Tacoma, Wash.; Chas. L. Shaw, Business Editor, Pacific Pulp and Paper Industry, Vancouver, B. C.; Kenneth Shibley, 1201 Textile Tower, Seattle, Wash.; Geo. B. Simpson, Waterous Limited, 123 Pender Street, W., Vancouver, B. C.; Geo. T. Smith, Norfolk Paper Company, Vancouver, B. C.; J. F. Smith, Great Western Electrochemical Company, San Francisco, Cal.; Larry K. Smith, Pacific Pulp and Paper Industry, Seattle, Wash.; F. J. Sparks, Marshall-Wells, British Columbia, Ltd., Vancouver, B. C.

W. L. Stevens, Consulting Electrical Engineer, Vancouver, B. C.; J. G. Storey, W. H. Malkin Company, Ltd., Vancouver, B. C.; Philip E. Sullivan, Ingersoll-Rand Company, Seattle, Wash.; R. C. Sweatt, General Equipment, Ltd., Vancouver, B. C.; J. A. Tames, Canadian Westinghouse, Vancouver, B. C.; Earl G. Thompson, Great Western Electro-Chemical Company, Seattle, Wash.; H. B. Thompson, 1065 W. Pender Street, Vancouver, B. C.; Bill Tweedie, Piano, Vancouver, B. C.; G. W. Vennels, Railway and Power Engineering Corporation, Vancouver, B. C.; G. M. Warren, Consolidated Mining and Smelting, Vancouver, B. C.; Cliff T. Welsh, Spear and Jackson Saws, Cranville, Id., Vancouver, B. C.

W. Hunt Wells, Wells Air Transport, Ltd., Vancouver, B. C.; F. B. Wetherill, Vancouver, B. C.; N. A. White, McLennan, McFeeley & Prior, Ltd., Vancouver, B. C.; Evan Whitehead, British Columbia Pulp and Paper Company, Ltd., Vancouver, B. C.; Frank D. Wilson, Simonds Canadian Saw Company, Ltd., Vancouver, B. C.; A. B. Wing, British Columbia Equipment Company, guest of R. S. Parry, Vancouver, B. C.; L. T. Woods, S. Leston & Burpee, Vancouver, B. C.; George Wright, The News Herald, Vancouver, B. C.; Robert H. R. Young, Pacific Mills, Ltd., Ocean Falls, B. C.; A. C. R. Yuill, Vancouver, B. C.

Lake States TAPPI Holds Symposium on Drying

Over 150 members attended the symposium on drying of the Lake States Section of the Technical Association of the Pulp and Paper Industries, held at the Conway Hotel in Appleton, Wis., Tuesday February 9, 1937. John R. Fanselow, chairman of the section, presided.

F. G. Stamm, of the Armstrong Machine Works began the discussion with his paper on the "Factors Which Influence the Efficiency of Paper Machine Drying". He stated that efficient drying was essentially a problem of drier drainage and then proceeded to enumerate the methods for removing condensate and air. To stress the necessity of removing air from the inside of the drier Mr. Stamm quoted figures from several sources showing that a small amount of air greatly reduced drier efficiency.

A. E. Montgomery of the J. O. Ross Engineering Corporation, discussed "The Influence of Air in the Performance of Paper Drying."

R. Skagerberg of the Brown Instrument Co. read a paper on "The Control of Uniformity of Drying" in which he pointed out the need for sensitive, rapid acting instruments for paper drying control.

H. G. Cram, of the Dominion Engineering Works used motion pictures and slides to show the action of condensate inside the drier. He pointed out the advantage of baffle plates in the drier to increase the "carry over" (formation of a uniform film of water around the inside periphery of the drier shell) of the condensate at lower machine speeds.

Mr. Cram also described the action of the restricted orifice syphon. A general discussion followed.

"Stock Preparation" will be the subject for the March meeting. Recent developments in paper machine felts and wires will be discussed at the April meeting.

Those Present

H. F. Adrian, Consolidated Water Power and Paper Company, Stevens Point, Wis.; W. F. Adrian, Badger Paper Mills, Inc., Peshtigo, Wis.; M. J. Auchter, Hoberg Paper Mills, Green Bay, Wis.; H. W. Bialkowsky, Gilbert Paper Company, Menasha, Wis.; John Bing, A. P. Green Fin Brush Company, Mexico, Mo.; Paul Boronow, Valley Iron Works, Appleton, Wis., and M. A. Buchanan, Institute of Paper Chemistry, Appleton, Wis.

F. A. Caldwell, Nekoosa Edwards Paper Company, Port Edwards, Wis.; J. B. Catlin, Kimberly-Clark Corporation, Neenah, Wis.; D. W. Choate, Brown Instruments, Milwaukee, Wis.; R. C. Crain, Whiting-Plover Paper Company, Stevens Point, Wis.; H. C. Crane, Fannon Trading Company, Appleton, Wis.; R. A. Corbett, Chain Belt Company, Milwaukee, Wis.; R. N. DeWilde, Kimberly-Clark Corporation, Neenah, Wis., and Harry Dyer, John Strange Paper Company, Menasha, Wis.

L. A. Emerson, Combined Locks Paper Company, Combined Locks, Wis.; K. J. Enderlein, Vittingfoss Bink, Vittingfoss, Norway; G. F. Enderlein, Mosinee Paper Company, Mosinee, Wis.; J. R. Fanselow, Kimberly-Clark Corporation, Appleton, Wis.; R. A. Farrell, Marathon Paper Mills Company, Menasha, Wis.; W. P. Feeney, Appleton, Wis., and Martin Finses, Cornell Wood Products Company, Cornell, Wis.

A. T. Gardner, Combined Locks Paper Company, Combined Locks, Wis.; E. P. Gleason, Nekoosa Edwards Paper Company, Port Edwards, Wis.; H. W. Gochnauer, Northern Paper Mills, Green Bay, Wis.; J. H. Graff, Institute of Paper Chemistry, Appleton, Wis., and Buster Griffiths, Heller & Merz, Chicago, Ill.

J. P. Habermann, Fox River Paper Company, Appleton, Wis.; A. J. Hayes, Nekoosa Edwards Paper Company, Nekoosa, Wis.; G. A. Heckner, Kimberly-Clark Corporation, Neenah, Wis.; H. F. Heller, Paper Makers Chemical, Kalamazoo, Mich; F. S. Hintz, Cornell Wood Products Company, Cornell, Wis.; R. N. Hollanck, Marathon Paper Mills Company, Menasha, Wis.; E. C. Horn, Whiting Plover Paper Company, Stevens Point, Wis.; George Hrubecky, John Strange Paper Company, Menasha, Wis., and A. J. Hutchinson, Standard Oil Company, Green Bay, Wis.

J. F. Inderdohnen, The Bristol Company, Chicago, Ill.; Charles Johnson, Institute of Paper Chemistry, Appleton, Wis., and W. A. Johnson, Hoberg Paper Mills, Green Bay, Wis.

R. H. Kehl, Kimberly-Clark Corporation, Neenah, Wis.; H. B. Kellogg, Kimberly-Clark Corporation, Neenah, Wis.; A. G. Kernin, Mosinee Paper Company, Mosinee, Wis.; R. E. Kissel, Hoberg Paper Mills, Green Bay, Wis.; R. V. Knapp, Bailey Meter Company, Milwaukee, Wis.; W. K. Kolb, Combined Locks Paper Company, Combined Locks, Wis.; Otto Kress, Institute of Paper Chemistry, Appleton, Wis.; Frank Kreiling, Thilmany Pulp and Paper Company, Kaukauna, Wis.; Harold Kriekard, Kimberly-Clark Corporation, Neenah, Wis., and Stephen Kukolich, Neenah Paper Company, Neenah, Wis.

Jay J. Lawson, Nekoosa-Edwards Paper Company, Port Edwards, Wis.; Lee Lightfoot, Cornell Wood Products Company, Cornell, Wis.; Jack Limpert, Kimberly-Clark Corporation, Kimberly, Wis., and Edward Lindberg, Kaukauna, Wis.

J. M. McAlear, Mason Neilan Regulator Company, Chicago, Ill.; L. J. McNamara, Wisconsin State Vocational Schools, Wausau, Wis.; Leo Madison, Kimberly-Clark Corporation, Neenah, Wis.; C. G. Marilley, Swan-Finch Oil Corporation, Chicago Ill.; J. E. Martin, Northern Paper Mills, Green Bay, Wis.; A. E. May, Thilmany Pulp and Paper Company, Kaukauna, Wis.; R. W. Meyer, Badger Paper Mills, Peshtigo, Wis.; E. B. Miller, Foxboro Company, Milwaukee, Wis.; A. E. Montgomery, J. O. Ross English Corporation, Chicago, Ill.; G. D. Moore, J. D. Wilson Company, Appleton, Wis.; C. R. Morse, Wisconsin River Pulp and Paper Company, Stevens Point, Wis.; L. A. Moss, Institute of Paper Chemical, Appleton, Wis., and B. S. Norling, Kimberly-Clark Corporation, Neenah, Wis.

A. T. Parker, Kimberly-Clark Corporation, Neenah, Wis.; Albert Papenburg, Combined Locks Paper Company, Combined Locks, Wis.; T. A. Pascoe, Nekoosa-Edwards Paper Company, Port Edwards, Wis.; L. B. Penhallow, Wadhams Oil Company, Appleton, Wis.; Marin Phillips, Appleton Coated Paper Company, Appleton, Wis.; W. J. Planck, J. J. Planck & Co., Appleton, Wis., and W. B. Pusey, Valley Iron Works, Appleton, Wis.

Dominic Raeli, Cornell Wood Products Company, Cornell, Wis.; E. H. Reiter, Kimberly-Clark Corporation, Kimberly, Wis.; C. H. Reese, Nekoosa-Edwards Paper Company, Port Edwards, Wis.; E. C. Rember, Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis; Will Risk, Wadhams Oil Company, Appleton, Wis.; S. P. Robinson, Lincoln Paper Company, Chicago, Ill.; R. Rusch, Institute of Paper Chemical, Appleton, Wis.; J. A. Rush, Consolidated Water Power and Paper Company, Stevens Point, Wis., and T. J. Russell, Nekoosa-Edwards Paper Company, Port Edwards, Wis.

Warren Sanders, Gordon Schanke, R. A. Schmid, Mansfield Schmidt, and James Sensenbrenner, Kimberly-Clark Corporation, Neenah, Wis.; F. G. Sherman, E. F. Houghton & Company, Appleton, Wis.; R. Skagerberg, Brown Instrument Company, Philadelphia, Pa.; L. M. Snyder, Marathon Paper Mills, Menasha, Wis.; W. F. Spengeman, Kimberly-Clark Corporation, Neenah, Wis.; J. A. Staidl, Thilmany Pulp and Paper Company, Kaukauna, Wis.; F. C. Stamm, Armstrong Machine Works, Three Rivers, Mich., and F. W. Stolz, Fort Howard Paper Company, Green Bay, Wis.

G. M. Thompson, Jr., Gilbert Paper Company, Menasha, Wis.; R. W. K. Ulm, Institute of Paper Chemistry, Appleton, Wis.; I. R. Valentine, Jr., Fox River Paper Company, Appleton, Wis.; Anton van de Laarschat, Hoberg Paper Mills, Green Bay, Wis.; J. A. Van den Akker, Institute of Paper Chem., Appleton, Wis.; R. J. Vechinskii, Nekoosa-Edwards Paper Co., Port Edwards, Wis.; E. H. Voigtman, Kimberly-Clark Corp., Neenah, Wis., and H. L. Voss, Mosinee Paper Mills Co., Mosinee, Wis.

C. F. Watson, Nekoosa Edwards Paper Company, Port Edwards, Wis.; J. E. Watson, Wisconsin Wire Works, Menasha, Wis.; P. A. White, Bailey Meter Company., Milwaukee, Wis.; E. R. Williams, Neenah Paper Company, Neenah, Wis.; V. H. Woehler, Fox River Paper Company, Appleton, Wis.; R. L. Youngson, Marathon Paper Mills Company, Menasha, Wis., and R. J. Zaumeyer, Kimberly-Clark Corporation, Neenah, Wis.

New Howard Bond Folders

The Howard Paper Company, of Urbana, Ohio, has just issued two attractive new advertising pieces—the 1937 Howard Bond Portfolio and the first mailing folder of this year's series, entitled "Rehabilitation."

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Analysis and Testing

Determining the Copper and Manganese in Papers. E. Belani. Zentralbl. Papierind. 54:147-148 (1936).—Traces of manganese and copper in photographic papers, as well as in rubber-sized and impregnated papers, have a very harmful catalytic action. The paper (10 grams) is treated with nitric acid, ashed, and the copper determined in the filtered hydrochloric acid extract of the ash in the usual manner. In latex-sized papers, the copper is determined as cuprous sulphide after ashing 20 grams of paper. The manganese in the ash may be determined colorimetrically or as the sulphide.—C.J.W.

The Photometric Determination of Sizing. T. Hennig. Papier-Fabr. 34, No. 22:169-174 (May 31, 1936).—In measuring the size resistance of paper, strips of uniform size are dyed on one side only and the absorption of the dyestuff is measured photometrically. Pigments or dyestuffs which react with any of the constituents of the paper, such as the acid present, are not suitable. Among the dyestuffs tested, methylene blue was found to give satisfactory results. Since the quantity of the dyestuff absorbed depends upon the sizing degree of the paper, it can be used as a criterion for measuring this property.—C.J.W.

Standard Methods for Determining the Fastness to Light of Colored Papers. Papier-Fabr. 34, No. 35:321-326; No. 36:329-333 (Aug. 30, Sept. 6, 1936).—This is essentially a translation of the report of the Fastness Committee of the Technical Section of the Paper Makers' Association of Great Britain and Ireland, which appeared in *Paper-Maker* 91, No. 4:TS54-61, 64 (April, 1936).—C.J.W.

Improved Method for the Microscopic Detection of Rosin in Pulp. A. Noll and M. Hahn. Papier-Fabr. 34, No. 25:193-196 (June 21, 1936).—Two new stains are described, Sudan Bluck B and BT, and indophenol, for use in differentiating pulps which are rich or poor in rosin. Sudan Black stains the rosin in the ray cells black, indophenol, blue; both reagents can be used for daylight, as well as artificial light.—C.J.W.

Apparatus for Testing the Smoothness of Paper. Myrl N. Davis and Homer E. Malmstrom, assignors to Paper Patents Co. U. S. pat. 2,050,486 (Aug. 11, 1936).—The apparatus comprises a truncated portion of a 90° wedge-shaped glass block having top and bottom parallel light-reflected surfaces against which sheets of the paper to be tested are pressed. A beam of light is projected normal to one of the beveled edges of the block, and the intensity of the beam emerging from the other bevelled edge is measured by any suitable photoelectric device.—A.P.-C.

Method of Testing Coated Paper. Donald B. Bradner and William J. Montgomery, assignors to The Champion Paper and Fibre Co. U. S. pat. 2,051,464 (Aug. 18, 1936).—The method consists in contacting over a considerable area of the coated paper a testing agent consisting of a thin flexible body having a relatively strong adhesive surface (suitably an 8 to 10 in. by 0.75 in. strip of friction tape) and suddenly removing it by a sharp pull or jerk by hand or by mechanical means in such a manner that the tape parts from the paper substantially from a line contact as distinguished from an area contact. Mechanical means may suitably be in the form of a heavy pendulum constructed and mounted so that the work effected in separating the tape from the paper can be measured.—A.P.-C.

Paper Specialties

Advances in the Field of Carbon Papers. A. König. Papier-Ztg. 61, No. 69:1332; No. 70:1348-1349 (Aug. 26, 29, 1936).—A review is given of the different coating methods used in the manufacture of carbon papers, with special reference to the Rinco and similar processes in which the coating is applied in two layers. The first coat contains the printing color without fats or waxes and does not strike through the base paper; the second protective layer is applied immediately after the first coat; it contains saponified waxes or resins, eventually also a pigment in order to cover the first, dark-colored coat.—C.J.W.

Cylinder Paper Machine. Harold O. Bing, assignor to Beloit Iron Works. U. S. pat 2,052,746 (Sept. 1, 1936).—The machine is designed and constructed so as to eliminate the top felt and the heavy duty presses. The sheet, while still on the pick-up felt, is passed through one or more extractor rolls where it is subjected to very light pressure, and then passed to one or more suction presses each of which is provided with a wire (like a fourdrinier wire) instead of a felt.—A.P.-C.

Sealing Paper Roll. Ferdinand W. Humphner, assignor to Mid-States Gummed Paper Co. U. S. pat. 2,050,794 (Aug. 11, 1936).—In forming small rolls of gummed paper by slitting a parent roll and widening the slit strips, when the small rolls have reached the desired size a small spot of adhesive is applied to all the rolls simultaneously, a string is laid across the rolls some distance beyond the spots, and after the rolls have been wound further the string is drawn across the strips to sever them so that a flap is formed in each behind the adhesive spot.—A.P.-C.

Method of Manufacturing Abrasive Coated Paper, Etc. Raymond C. Benner and Romie L. Melton, assignors to The Carborundum Co. U. S. pat. 2,053,360 (Sept. 8, 1936).—Loose abrasive grains having individual non-tacky films of a plasticizable binder are sprinkled on to a movable web. The web is then subjected to treatment that plasticizes the films so that a portion of the binder on each particle flows to the base of the particle and into contact with the web; and subsequent treatment is given to harden and set the binder.—A.P.-C.

Rendering Paper, Pasteboard, Etc., Impermeable and Fireproof. Y. A. R. Leroy, assignor to Brick Trust Ltd. U. S. pat. 2,052,886 (Sept. 1, 1936).—The material is impregnated with zinc stearate by treating successively with sodium stearate and zinc sulphate, and is then treated at 30° to 75° C. with a fireproofing solution prepared by mixing together a solution comprising an alkali tungstate, borate and phosphate with a solution obtained by mixing aqueous ammonia with phosphorus oxychloride. The material is finally treated with gelatine which is then hardened with formalin.—A.P.-C.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING FEBRUARY 13, 1937

CIGARETTE PAPER

Champagne Paper Corp., *Sarcoxie,* St. Nazaire, 215 cs.

WALL PAPER

F. J. Emmerich, *Samaria,* Liverpool, 17 bls.; ———, *Europa,* Bremen, 1 cs.

PRINTING PAPER

F. C. Strype, *Veendam,* Rotterdam, 10 rolls; Oxford University Press, *Samaria,* Liverpool, 5 cs.

FILTER MASSE

A. W. Fenton, Inc., *Europa,* Bremen, 100 bls.

FILTER PAPER

H. Reeve Angel & Co., Inc., *American Banker,* London, 18 cs.; ———, *American Banker,* London, 2 cs.

DRAWING PAPER

H. Reeve Angel & Co. Inc., *American Banker,* London, 6 cs.

COATED PAPER

L. A. Consmiller, *Europa,* Bremen, 1 cs.

DECALCOMANIAS

Sellers Transportation Co., *Europa,* Bremen, 16 cs.; ———, *Europa,* Bremen, 2 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., *Samaria,* Liverpool, 22 cs. (duplex), 2 cs. (simplex).

TRANSFER PICTURES

Rohner Gehrig & Co., *Europa,* Bremen, 11 cs.

TISSUE PAPER

Lansen Naeve Corp., *Europa,* Bremen, 2 cs.; B. F. Drakenfeld & Co., *Samaria,* Liverpool, 5 cs.; ——— *Conti di Savoi,* Genoa, 12 cs.

CARD BOARD

R. Wilson Paper Corp., *Veendam,* Rotterdam, 26 cs.

STRAW BOARD

Balfour Guthrie & Co., *Veendam,* Rotterdam, 1,205 pkgs.

MISCELLANEOUS PAPER

Keller Dorian Paper Co., *Excambion,* Marseilles, 13 cs.

RAGS, BAGGINGS, ETC.

Banco Coml. Italiane Trust Co., *Excambion,* Alexandria, 88 bls. rags; E. J. Keller Co. Inc., *Excambion,* ———, 127 bls. paper stock; ———, *Excambion,* Genoa, 71 bls. rags; Castle & Overton, Inc., *Sarcoxie,* Bordeaux, 37 bls. rags; E. J. Keller Co. Inc., *Sarcoxie,* ———, 159 bls. paper stock, 68 bls. bagging; R. Blank, *Sarcoxie,* St. Nazaire, 59 bls. rags; Horvich Vilkin Co., *Sarcoxie,* Dunkirk, 69 bls. jute waste; ———, *Sarcoxie,* Dunkirk, 26 bls. rags; Van Oppen & Co., *Sarcoxie,* Dunkirk, 37 bls. rags; Darmstadt Scott & Courtney, *Sarcoxie,* Dunkirk, 45 bls. bagging; Philadelphia National Bank, *Sarcoxie,* Dunkirk, 40 bls. rags; Continental Bank Trust Co., *Sarcoxie,* Dunkirk, 75 bls. bagging, 158 bls. paper stock; D. Benedetto, Inc., *Sarcoxie,* Dunkirk, 166 bls. rags; G. W. Millar & Co. Inc., *Sarcoxie,* Havre, 25 bls. rags; W. Steck & Co., *Pipestone County,* Dunkirk, 39 bls. rags; Congoleum Nairn Co., *Pipestone County,* Dunkirk, 17 bls. rags; Philadelphia National Bank, *Pipestone County,* Dunkirk, 85 bls. rags; Horvich Vilkin Co., *Pipestone County,* Dunkirk, 15 bls. jute waste; R. Blank, *Pipestone County,* Havre, 516 bls. rags; W. Steck & Co., *Pipestone County,* Havre, 168 bls. rags; J. F. Keen, Inc., *Pipestone County,* Havre, 126 bls. rags; D. Benedetto, Inc., *Pipestone County,* Havre, 160 bls. rags, 11 bls. bagging; Great Eastern Packing & Paperstock Corp., *Pipestone County,* Havre, 104 bls. rags; Continental Bank Trust Co., *Pipestone County,* Havre, 25 bls. rags; R. J. Ross Co. Inc., *Pipestone County,* Havre, 184 bls. rags; S. Cohen & Son, Co. Inc., *Pipestone County,* Havre, 12 bls. new cuttings; Hicks Costarino Co., *Pipestone County,* Havre, 62 bls. new cuttings, 39 bls. rags; G. W. Millar & Co. Inc., *Pipestone County,* Havre, 205 bls. rags; Castle & Overton, Inc., *Pipestone County,* Havre, 109 bls. rags, 38 bls. bagging; Katzenstein & Keene, Inc., *Pipestone County,* Havre, 164 bls. bagging; Irving Trust Co., *Pipestone County,* Havre, 55 bls. bagging; J. T. Flannery, Inc., *Pipestone County,* Havre, 12 bls. rags; ———, *Pipestone County,* Havre, 118 bls. cotton waste; E. J. Keller Co. Inc., *Pipestone County,* ———, 77 bls. rags; ———, *Samaria,* Liverpool, 102 bls. rags; Arcadia Manufacturing Supply Co., *Haukefjell,* London, 22 bls. rags; E. Butterworth & Co. Inc., *American Importer,* Manchester, 174 bls. bagging, 22 bls. cotton waste; ———, *American Importer,* Manchester, 18 bls. cotton waste; Leigh Textile Co., *American Importer,* Manchester, 50 bls. cotton waste; Royal Manufacturing Co., *American Importer,* Manchester, 121 bls. cotton waste; ———, *American Importer,* Manchester, 114 bls. rags; Banco Coml. Italiane Trust Co., *American Importer,* Manchester, 42 bls. paper stock; Chase National Bank, *American Importer,* Manchester, 5 bls. bagging; E. J. Keller Co. Inc., *American Importer,* ———, 64 bls. bagging; ———, *American Importer,* Liverpool, 5 bls. rags; M. Snedeker Corp., *American Importer,* Belfast, 94 bls. paper stock; Castle & Overton, Inc., *Argentino,* Buenos Ayres, 160 bls. bagging; Castle & Overton, Inc., *Argentino,* Buenos Ayres, 38 bls. hemp canvas; E. J. Keller Co. Inc., *American Legion,* ———, 306 bls. rags; ———, *American Banker,* ———, 50 bls. paper stock, 109 bls. rags; Chase National Bank, *American Banker,* London, 70 bls. paper stock; E. J. Keller Co. Inc., *American Banker,* ———, 79 bls. bagging; Irving Trust Co., *Ilsenstein,* Antwerp, 40 bls. rags; Spaulding Fibre Co., *Ilsenstein,* Antwerp, 70 bls. rags; Philadelphia National Bank, *Ilsenstein,* Antwerp, 106 bls. rags; ———, *Ilsenstein,* Antwerp, 107 bls. bagging; Chase

National Bank, *Ilsenstein,* Antwerp, 160 bls. jute waste; Great Eastern Packing & Paperstock Corp., *McKeesport,* Glasgow, 62 bls. bagging; ———, *McKeesport,* Leith, 43 bls. rags; J. Cohen & Son Co. Inc., *McKeesport,* Dundee, 34 bls. paper stock; ———, *McKeesport,* Dundee, 135 bls. paper stock; Chase National Bank, *McKeesport,* Dundee, 29 bls. rags; ———, *Batory,* Gdynia, 12 bls. rags; E. J. Keller Co. Inc., *Nordhavet,* ———, 108 bls. paper stock, 142 bls. bagging; E. J. Keller Co. Inc., *Nankai Maru,* ———, 200 bls. cotton waste; E. J. Keller Co. Inc., *Ida,* ———, 357 bls. paper stock.

GLUE STOCK, ETC.

——— *Saturnia,* Trieste, 950 bags bone glue; ———, *Saturnia,* Trieste, 400 bags hide glue.

OLD ROPE

E. J. Keller Co. Inc., *Sarcoxie,* ———, 102 coils; W. Steck & Co., *Veendam,* Rotterdam, 127 coils; Banco Coml. Italiane Trust Co., *American Banker,* London, 48 coils.

CASEIN

Jungmann & Co. Inc., *Wiegand,* Melbourne, 1,000 bags; ———, *Wiegand,* Melbourne, 1,000 bags; Balfour Guthrie & Co., *American Legion,* Buenos Ayres, 416 bags.

CHINA CLAY

Orbis Products Trading Co., *Samaria,* Liverpool, 448 bags.

WOOD PULP

Gottesman & Co. Inc., *Hammaren,* Sweden, 3,950 bls. wood pulp.

WOOD PULP SHEETS

———, *Europa,* Bremen, 47 bls.

PHILADELPHIA IMPORTS

WEEK ENDING FEBRUARY 13, 1937

E. J. Keller Co. Inc., *Sarcoxie,* ———, 1,088 bls. rags; Castle & Overton, Inc., *Sarcoxie,* Bordeaux, 804 bls. rags; Castle & Overton, Inc., *Sarcoxie,* St. Nazaire, 206 bls. rags; Castle & Overton, Inc., *Sarcoxie,* Havre, 238 bls. rags; Castle & Overton, Inc., *Sarcoxie,* Dunkirk, 55 bls. rags; W. F. Sherwood & Son, *Sarcoxie,* Dunkirk, 78 bls. rags; R. J. Ross Co. Inc., *Pipestone County,* Havre, 173 bls. rags; Castle & Overton, Inc., *Pipestone County,* Havre, 871 bls. rags, 36 bls. new cuttings; G. W. Millar & Co. Inc., *Pipestone County,* Havre, 43 bls. rags; Loumar Textile By Products, *Pipestone County,* Havre, 452 bls. rags; W. F. Sherwood & Son, *Pipestone County,* Havre, 39 bls. rags; E. J. Keller Co. Inc., *Pipestone County,* ———, 286 bls. rags; Castle & Overton, Inc., *Argentino,* Buenos Ayres, 423 bls. paper stock; ———, *McKeesport,* Hamburg, 669 bls. wood pulp, 100 tons; Castle & Overton, Inc., *McKeesport,* Hamburg, 3,250 bls. wood pulp, 650 tons; ———, *McKeesport,* Hamburg, 468 rolls wrapping paper; ———, *McKeesport,* Dundee, 48 bls. paper stock; Gottesman & Co. Inc., *Virginia,* Sweden, 5.961 bls. wood pulp; Gottesman & Co. Inc., *Vasaholm,* Sweden, 630 bls. wood pulp; E. J. Keller Co. Inc., *Black Osprey,* ———, 128 bls. paper stock; E. J. Keller Co. Inc., *Spaarndam,* ———, 810 bls. paper stock.

BALTIMORE IMPORTS

WEEK ENDING FEBRUARY 13, 1937

Congoleum Nairn Co., *Sarcoxie,* Bordeaux, 1,065 bls. rags; Congoleum Nairn Co., *Sarcoxie,* Havre, 302 bls. rags; Congoleum Nairn Co., *Sarcoxie,* Dunkirk, 124 bls. rags; Congoleum Nairn Co., *Sarcoxie,* St. Nazaire, 225 bls. rags; Chase National Bank, *Sarcoxie,* St. Nazaire, 333 bags casein; A. W. Fenton, Inc., *Haukefjell,* London, 4 bls. paper stock; S. Shapiro & Son, *Haukefjell,* London, 23 bls. paper stock; Parsons & Whittemore, Inc., *City of Hamburg,* ———, 1,680 bls. wood pulp; Gottesman & Co. Inc., *Flora,* Sweden, 6,000 bls. wood pulp; Papel Horton & Co. Inc., *Flora,* Sweden, 6,999 bls. wood pulp; Pagel Horton & Co. Inc., *J. Christensen,* Sweden, 4,250 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING FEBRUARY 13, 1937

Irving Trust Co., *Sarcoxie,* Dunkirk, 80 bls. bagging; N. Y. Trust Co., *Sarcoxie,* Dunkirk, 94 bls. bagging.

BOSTON IMPORTS

WEEK ENDING FEBRUARY 13, 1937

Pagel Horton & Co. Inc., *Norefjord,* Sweden, 4,080 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING FEBRUARY 13, 1937

Pagel Horton & Co. Inc., *Trolleholm,* Sweden, 1,500 bls. wood pulp.

Far West Paper Interests Plan Merger

The directors of the Crown Zellerbach Corporation and of the Crown Williamette Paper Company today voted to submit to special meetings of stockholders a plan of reorganization which, if adopted, would result in the merging of Crown Williamette into Crown Zellerbach.

The plan provides for a new issue of $5 cumulative convertible preferred stock of Crown Zellerbach and the changing of the present common stock from no par to $5 par. The exchange would be made of the present preferred stocks of each corporation for varying amounts of the new convertible preferred and common stocks of Crown Zellerbach.

The $7 first preferred stock of Crown Williamette would be exchanged for one and one-fifth shares of new convertible preferred and one-fifth share of common. Crown Williamette's $6 second preferred stock would be exchanged for eight-tenths share of the new convertible preferred and two and one-half shares of common.

The $6 preference stock of Crown Zellerbach would be exchanged for one and one-fortieth shares of new convertible preferred and one share of common. The common stock, now represented by voting trust certificates, would be exchanged on a share-for-share basis into new common and the voting trust dissolved.

The new preferred would be convertible into common on the basis of one share of preferred for four shares of common for a period of eighteen months; into three and one-half shares for an additional eighteen months or into three shares for an additional two years.

The indicated value of the stock involved is more than $100,000,000, of which approximately $60,000,000 is represented by the preferred stocks.

Notices of the special meetings, which are called for March 16, will be mailed from San Francisco on or about February 15. Stockholders of record of February 19 will be entitled to vote at the meetings.

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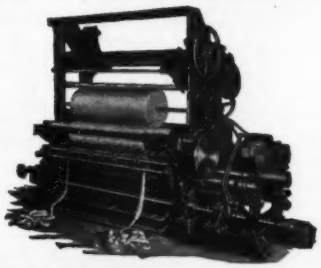

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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, February 17, 1937.

The local paper market is displaying strength. Demand for the various standard grades of paper is persistent. Sales forces of the leading paper organizations continue optimistic over the future trend. Quotations are generally steady to firm, with reports of shading infrequent.

Conditions in the newsprint paper market are improving. Demand from the newspaper publishers is well sustained. The total North American production for January amounted to 395,850 tons, which compares with an output of 333,504 tons in the corresponding month last year. Stocks at the mills are normal.

The fine paper market is exhibiting a strong undertone. Demand for book, cover, bond and ledger papers is brisk. Prices are firm. Tissues are moving in good volume for the season. The coarse paper market is buoyant and prices have advanced slightly. Demand for the various grades of paper board is better.

Mechanical Pulp

Steadiness prevails in the ground wood pulp market. Manufacturing operations in North America and abroad are proceeding at a good pace in order to take care of current requirements. The statistical position of the industry is sound. Prices are holding to previously quoted levels without difficulty.

Chemical Pulp

The chemical pulp market is firmer, with demand insistent and offerings limited. Prices have again advanced. Prime easy bleaching sulphite pulp is now offered at from $2.95 to $3.25 and prime strong unbleached sulphite pulp at from $2.75 to $3.10, on dock, Atlantic, Gulf and West Coast ports.

Old Rope and Bagging

Some improvement transpired in the old rope market. More paper mill interest developed in old manila rope and prices were decidedly firmer. The bagging market was also stronger during the past week. Demand for scrap and gunny bagging was better, while roofing bagging was in seasonal request.

Rags

The domestic rag market is much firmer. Paper mill demand for new and old cotton rags is fairly lively and prices are higher, in some instances. No. 1 white shirt cuttings are now quoted at from $9 to $9.25, blue overalls at from $7 to $7.25 and fancy shirt cuttings at from $3.50 to $3.75, f.o.b. New York.

Waste Paper

Board mill demand for the lower grades of paper stock is more in evidence. No. 1 mixed paper is firmer and is now quoted at from .50 to .55. The higher grades of waste paper continue steady, with no radical price changes reported. The outlook for the future is considered brighter than for some time past.

Twine

The local twine market is sharing in the general business improvement. Demand for the various varieties is well up to average for the time of year. Supplies are moving into consumption freely. Quotations on both hard and soft fiber twines are holding to schedule despite the usual keen competition.

W. T. Schmitt New President of Bryant

KALAMAZOO, Mich., February 16, 1937—W. T. Schmitt, who has served as executive vice-president and general manager of the Bryant Paper Company since 1931, was elected president of the company at its annual meeting held on February 13. He succeeds W. B. Milham who was president since 1932 and who has been connected with the Bryant Paper Company since its organization in 1895. Mr. Milham was elected chairman of the board at the meeting.

The stockholders were unanimous in their expression of approval of the progress and conduct of the business under Mr. Schmitt's direction. In his annual report, he predicted a continuance of prosperity for the company in 1937. Mr. Schmitt is the fifth president to serve the company, the others being Noah Bryant, Frank H. Milham, Felix Pagenstetcher and W. B. Milham.

The complete roster of officers elected at the meeting is as follows:

W. T. Schmitt, president; Joseph E. Brown, vice-president in charge of sales; P. H. Gideon, treasurer and assistant secretary; Allan B. Milham, secretary. The directors are: W. B. Milham, chairman; W. T. Schmitt, J. E. Brown, Dr. Rudolph E. Gilkey, W. E. Kidder, Frank E. McAllister, Charles Clarage, Dr. Rudolph Light and W. J. Lawrence.

William P. Aikin Dead

WATERTOWN, N. Y., February 14, 1937—William P. Aikin, 69 years old, for many years head of the International Burr Corporation, producers of paper mill burrs, died at his home here this week after a long illness. He retired several years ago because of ill health. His early youth was spent in Lockport where he served as a master mechanic in paper mills. In 1910 he became associated with the Deferiet mill of the St. Regis Paper Company and while there he became an expert in the manufacture of burrs. He was granted several patents for his inventions. In 1915 he resigned to become identified with the Hall Process Corporation which was headed by the late George Sherman. In 1916 the deceased organized the International Burr Corporation which prospered from the start. Mr. Aiken's two sons have carried on the business since he retired. Products of the company are shipped to various parts of the world. The survivors are his wife, two sons and two daughters.

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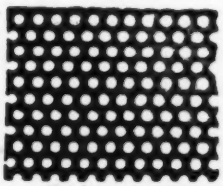
350 Madison Avenue, New York, N. Y.

Oldest and Largest Producers of Casein in America

Perforated Metal Screens

For Pulp and Paper Mills



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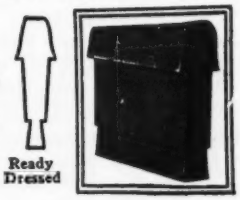

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KELLNER-PARTINGTON PAPER PULP CO., LTD.
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AKTIESELSKABET GREAKER CELLULOSEFABRIK
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Söderhamn, Sweden
CELLULOSEFABRIKS A.-G.
Bratislava, Czecho-Slovakia
SVANÖ AKTIEBOLAG
Svanö, Sweden

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, February 17, 1937.

BLANC FIXE.—No radical changes transpired in the blanc fixe market during the week. Prices continue steady. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The position of the bleaching powder market is fairly satisfactory. Shipments against contract are moving in good volume. Prices remain unchanged. Bleaching powder is quoted at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues firm. Domestic standard ground is still quoted at 19½ and finely ground at 20 cents; while Argentine standard ground is also selling at 19½ and finely ground at 20 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Demand is gradually improving. Prices are firm. Solid caustic soda is quoted at from $2.55 to $2.60; while the flake and ground are selling at from $2.95 to $3 per 100 pounds, in drums, at works.

CHINA CLAY.—The china clay market is exhibiting a strong undertone. Contract shipments are moving freely. Imported china clay is quoted at from $15 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at works.

CHLORINE.—Paper mill demand for chlorine is brisk. The contract movement is fairly heavy. Prices are holding to formerly quoted levels without difficulty. Chlorine is quoted at from $2.15 to $2.25 per 100 pounds, in tank cars, at works.

ROSIN.—The rosin market is little changed. Paper making gum rosin is quoted at $9.75 and wood rosin at $9.85 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $4.16 per 100 pounds, in tank cars, at works.

SALT CAKE.—Business in the salt cake market continues active. Prices remain unchanged. Salt cake is quoted at from $12 to $13; chrome salt cake at from $11 to $12 per ton, at works; while imported salt cake is selling at from $12 to $13 per ton, ship side.

SODA ASH.—The soda ash market is displaying strength. Contract shipments are moving regularly. Prices are holding to schedule. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH.—Trading in the starch market is moderately active. The contract movement is normal for the time of year. Prices are steady to firm. Special paper making starch is quoted at $4 per 100 pounds, in bags; and at $4.27 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—The sulphate of alumina market is holding up well. Demand from the mills is persistent. Commercial grades are still quoted at from $1.35 to $1.60; while iron free is selling at from $2 to $2.25 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is steady. Yearly contracts are quoted at $18 per long ton, on orders of 1,000 tons, or over and $20 on smaller quantities. On spot and nearby carloads the quotation is $21 per ton. All quotations are in car lots, at works.

TALC.—Conditions in the talc market are practically unchanged. Prices are generally holding to formerly quoted levels. Domestic talc is selling at from $16 to $18 per ton, at eastern mines; while imported talc is offered at from $23 to $30 per ton, on dock.

Market Quotations

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.35
100% Rag	.29	@	.30
75% Rag	.22	@	.23
65% Rag	.19	@	.20
50% Rag	.15½	@	.16½
25% Rag	.13	@	.14

Sulphite Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
No. 1 Sulphite	7.65	@	8.65
No. 2 Sulphite	6.75	@	7.75
No. 3 Sulphite	6.25	@	7.25
No. 4 Sulphite	5.50		6.50

Book, B Grade, Cased (f.o.b. mill less carload freight allowed)

S. & S. C.	6.00	@	—
S. & S. C. Litho.	6.25	@	—
M. F.	5.75	@	—
No. 4 Coated and Enamel	7.00	@	—
No. 4 Coated Litho	7.00	@	—

Tissues—Per Ream

White No. 1	.82½	@	—
White No. 1 M. G.	.77½	@	—
White No. 1½	.62½	@	—
White No. 2	.60	@	—
Anti-Tarnish M. G.	.67½	@	—
Colored	.80	@	—
Kraft	.67½	@	—
Manila	.60	@	—
Unbleached Toilet	2.60	@	3.30
Bleached Toilet	3.94	@	5.26

Paper Towels—

Unbleached	2.10	@	3.35
Bleached	3.30	@	3.70

Manila—

No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00

Fibre Papers—

No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75

(Delivered New York)

News, per ton—

Roll, contract	42.50	@	—
Sheets	47.50	@	—

Kraft—

No. 1 Northern	5.25	@	5.75
Standard	5.00	@	—
Southern	5.00	@	—
Glazed	4.50	@	—
Striped	4.75	@	—

Boards, per ton—

News	42.50	@45.00
Chip	42.50	@45.00
Sgl. Mla. Ll. Chip.	52.50	@55.00
Jute Lined Chip	52.50	@55.00
Kraft Liners	67.50	@70.00
White Pat. Coated	65.00	@67.50
Binders Boards	70.00	@75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—

Moist	33.00	@35.00
Dry	33.00	@35.00

(Delivered)

No. 1 Domestic and Canadian 33.00 @36.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—

Prime Bleached Sulphite	2.70	@	3.85
Prime Qualities—			
Easy-Bleaching Sulphite	2.95	@	3.25
Strong Unbleached Sulphite	2.75	@	3.10

(On Dock, Atlantic Ports)

Kraft Bleached	3.50	@	3.75
Kraft Light & Strong	2.35	@	3.00
Kraft No. 1	2.25	@	2.90
Kraft No. 2	2.10	@	2.25

(F.o.b. Pulp Mill)

Kraft Domestic	2.50	@	2.80

(Delivered)

Soda Bleached	2.50	@	2.85

Add 60 cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	9.00	@	9.25
Silesias No. 1	6.75	@	7.00
New Unbleached	9.25	@	9.50
Blue Overall	7.00	@	7.25
Fancy	3.50	@	3.75
Washables	2.25	@	2.50
Mixed Khaki Cuttings	3.50	@	3.75
O. D. Khaki Cuttings	4.25	@	4.50

Old Rags

White, No. 1—			
Repacked	3.50	@	3.75
Miscellaneous	3.00	@	3.25
White, No. 2—			
Repacked	2.50	@	2.75
Miscellaneous	2.00	@	2.25
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.90	@	2.00
Roofing Rags—			
No. 1	Nominal		
No. 2	1.95	@	2.05
No. 3 (bagging)	1.50	@	1.60
No. 4	1.50	@	1.60
No. 5A	1.40	@	1.50

Foreign Rags

New Rags

New Dark Cuttings	2.25	@	2.50
New Mixed Cuttings	2.00	@	2.25
New Light Silesias	5.50	@	5.75
Light Flannelettes	5.50	@	5.75
New White Cuttings	7.00	@	7.50
New Light Oxfords	4.00	@	4.50
New Light Prints	3.00	@	3.25

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	2.25	@	2.50
French Blue Linens	3.50	@	4.00
German Blue Linens	2.50	@	2.75
German Blue Cottons	2.00	@	2.25
Checks and Blues	2.00	@	2.25
Linsey Garments	2.25	@	2.35
Dark Cottons	2.35	@	2.45
Old Shopperies	1.75	@	2.00
New Shopperies	1.75	@	2.00
French Blues	2.25	@	2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	2.25	@	2.35
Domestic	2.15	@	2.25
Wool Tares, light	1.75	@	1.85
Wool Tares, heavy	2.20	@	2.35
Bright Bagging	1.70	@	1.75
Manila Rope—			
Foreign	3.80	@	3.90
Domestic	3.50	@	3.60
Jute Strings	2.75	@	3.00
Sisal Strings	2.60	@	2.75
Mixed Strings	Nominal		

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.20	@	3.30
Ordinary Hard White No. 1	2.50	@	2.60
Hard White No. 2	2.20	@	2.30
Soft White No. 1	2.00	@	2.10
Flat Stock—			
Stitchless	1.30	@	1.35
Over issue Mag	1.30	@	1.35
Solid Flat Book	1.20	@	1.30
Crumpled No. 1	1.05	@	1.15
Ledger Stock	1.30	@	1.35
New B. B. Chips	.50	@	.55
Manila—			
New Env. Cut	2.15	@	2.25
New Cuttings	1.60	@	1.70
Old Kraft Machine—			
Compressed bales	1.60	@	1.70
News—			
No. 1 White News	1.40	@	1.50
Strictly Overissue	.70	@	.75
Strictly Folded	.60	@	.65
No. 1 Mixed Paper	.50	@	.55

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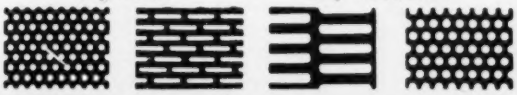
Pulp and Paper Mill Screens
Of Stainless Steel—Copper—Bronze—Monel—
Chemical Resisting Alloys
Perforations that are accurate in size
Any Metal Any Perforation



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RUBBER ROLLS
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AMERICAN WRINGER CO., INC., Woonsocket, R. I.

Twines

(F. o. b. Mill)

(Soft Fibre)

Coarse Polished—			
India	.14¼	@	.17½
Belg. White Hemp	.15½	@	.19½
India Compress	.15¼	@	.15¾
Fine Polished—			
Fine India	.21	@	.23
Unpolished—			
Box	.10¾	@	.11¼
Paper Makers	.10½	@	.12¼
Tube Rope	.11½	@	.14
Wall Paper	.12½	@	.13¼
Wrapping	.16	@	.20
Soft Fiber Rope	.13¼	@	.14¼
(Hard Fibre)			
Bond	.13½	@	.22
Anchor	.13	@	.14½
Manila	.21	@	.28

PHILADELPHIA

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.37
100% Rag	.28		.29
75% Rag	.21		.22
65% Rag	.18		.19
50% Rag	.15		.16
25% Rag	.12½		.13½

Sulphite Bond & Ledgers—

	Bonds		Ledgers
No. 1 Sulphite	7.75	@	8.75
No. 2 Sulphite	6.75	@	7.75
No. 3 Sulphite	6.00	@	7.00
No. 4 Sulphite	5.50	@	6.50

F.o.b. Mill

Book, M.F.	5.00	@	—
Book, S. S. & C.	5.25	@	—
Book, Coated	6.75	@	—
Coated Lithograph	6.75	@	—
No. 1 Jute Manila	10.50	@	—
Manila Sul., No. 1	6.75	@	—
Manila No. 2	4.25	@	—
No. 1 Kraft	6.00	@	—
Southern Kraft	5.00	@	—
News Print Rolls	42.50	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.08	@	.08½
New White, No. 2.	.04½	@	.05
Light Silesias	.05½		—
Silesias, No. 1	.04½	@	.05
Black Silesias, soft.	.03½	@	.04
New Unbleached	.06	@	—
Washable, No. 1	.02	@	.02½
Blue Overall	.07	@	.07½
Cottons—According to grades—			
Washable, No. 2	.02½	@	.04½
New Blue	.02	@	.02½
Fancy	.03	@	—
New Black Soft	.04	@	.04½
New Light Seconds	.03½	@	.04
New Dark Seconds	2.00	@	2.25
Khaki Cuttings—			
No. 1 O. D.	.04	@	.04½
No. 2 Mixed	.03½	@	.04
Corduroy	.02	@	.02¼
New Canvas	.04	@	.04½
New Black Mixed.	.02	@	.02¼

Domestic Rags (Old)

White No. 1—			
Repacked	4.00	@	4.50
Miscellaneous	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	2.00	@	2.25
Repacked	2.50	@	2.75
Black Stockings (Export)	4.50	@	5.00
Roofing Stock—			
Foreign No. 1	2.20	@	2.25
Domestic No. 1	2.10	@	2.20
Domestic No. 2	1.90	@	2.00
Roofing bagging	1.75	@	1.85

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	2.00	@	—
Domestic	2.25	@	—
Manila Rope	2.75	@	—
Sisal Rope	2.25	@	2.35
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	2.25	@	2.50
No. 2	1.00	@	1.10
Wool Tares, heavy	3.25	@	3.50
Mixed Stringa	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.50	@	2.75

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.40	@	2.50
No. 2 Hard White.	2.20	@	2.25
No. 1 Soft White.	2.00	@	2.10
No. 2 Soft White.	1.40	@	1.45
No. 1 Mixed.	—	@	.85
Solid Ledger Stock.	—	@	1.75
Ledger Stock, white.	1.60	@	1.65
Ledger Stock, colored	1.20	@	1.25
No. 1 Books, heavy.	1.20	@	1.25
Manila Cuttings	1.80	@	1.90
Print Manila	.60	@	.65
Container Manila	.50	@	.55
Kraft Paper	—	@	1.40
No. 1 Mixed Paper.	.50	@	.55
Straw Board Chip.	.50	@	—
Binders Board Chip.	.50	@	—
Corrugated Board	.65	@	.70
Overissue News	.75	@	.80
Old Newspapers	.60	@	.65

BOSTON

Paper

Rag Content Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
100% Rag Ext. No. 1	.36		.37
100% Rag	.28		.29
75% Rag	.21		.22
65% Rag	.18		.19
50% Rag	.15		.16
25% Rag	.12½		.13½

Sulphite Bond & Ledgers—Delivered Zone 1

	Bonds		Ledgers
No. 1 Sulphite	7.65	@	8.65
No. 2 Sulphite	6.75	@	7.75
No. 3 Sulphite	6.25	@	7.25
No. 4 Sulphite	5.50	@	6.50

F.o.b. Mill

Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06¼
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05¼	@	—
No. 2 Kraft	.05	@	—

(Delivered New England points)

Southern Kraft	.05	@	—
News Print Rolls	42.00	@	—
Straw Board, rolls	.009	@	35.00
Filled News Board	45.00	@	47.50
Chip Board	42.50	@	45.00
Single Manila Lined Chip	52.50	@	57.50
Single White, Patent Coated News Board (Bender)	65.00	@	70.00
Wood Pulp Board	70.00	@	75.00
Binder Boards (Standard Grade)	70.00	@	—

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White.	2.20	@	2.35
No. 1 Soft White.	1.85	@	2.15
No. 2 Mixed.	.75	@	.80
Solid Ledger Books.	1.50	@	1.75
Overissue Ledger Stock	1.30	@	1.50
Mixed Ledgers	85	@	.90
No. 1 Books, heavy.	1.25	@	—
No. 1 Books, light.	.65	@	.75
Crumpled Stitchless Book Stock	50	@	.60
Manila Env. Cuttings	1.60	@	1.70
Manila Env. Cuttings, extra quality	2.15	@	2.25
No. 1 Old Manila	.80	@	.85
White Blank News	1.25	@	1.30
No. 1 Kraft	1.45	@	1.50
Mixed Papers	.42½	@	.47½
Print Manila	.60	@	.70
Container Manilas	.27½	@	—
Old Newspapers	.52½	@	.57½
Overissue News	.50	@	.65
Box Board Chips	.40	@	.45
Transmission Rope	2.00	@	2.25
Corrugated Boxes	.60	@	.65
Kraft corrugated boxes	1.20	@	1.35
Screening Wrappers	.60	@	.65

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	3.90	@	4.00
Domestic	3.00	@	3.30
Jute Rope	2.50	@	2.75
Soft Jute Strings	2.50	@	2.62½
Jute Carpet Threads	1.75	@	2.00
Gunny No. 1—			
Foreign	2.25	@	2.35
Domestic	2.10	@	2.20
Bleachery Burlap	4.25	@	4.50
Scrap Burlap—			
Foreign	2.15	@	2.25
Domestic	2.10	@	2.20
Scrap Sisal	2.40	@	2.50
Scrap Sisal for Shredding	2.60	@	2.75
Wool Tares, heavy	2.25	@	2.40
New Burlap Cuttings	2.85	@	3.00
Aust. Wool Pouches	2.90	@	3.00
Heavy Baling Bagging	2.40	@	2.75
Paper Mill Bagging	1.75	@	1.80
Bagging No. 2	1.70	@	—

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04	@	.04¼
New White No. 1	.08¾	@	.09
New White No. 2	.06	@	.06½
Silesias No. 1	.07¼	@	.07½
New Black Silesias	.04¼	@	.04½
Soft Unbleached	.09¼	@	.09½
Blue Cheviot	.07½	@	.07¾
Fancy	.03¾	@	.04
Washable	.03	@	.03¼
Cottons—According to grades—			
Blue Overalls	.07¼	@	.07½
New Black, soft	.04¼	@	.04½
Khaki Cuttings	.04¼	@	.04½
O. D. Khaki	.04½	@	.04¾
Corduroy	.03¾	@	.03½
New Canvas	.07¾	@	.08¼
B.V.D. Cuttings	.08¾	@	.09

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.75	@	2.00
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	3.90	@	4.00
Roofing Stock—			
No. 1	1.70	@	1.80
No. 2	1.60	@	1.70
No. 3	1.30	@	1.35

Foreign Rags

(F. o. b. Boston)

Dark Cottons	2.20	@	2.30
New white shirt cuttings	6.75	@	7.50
Dutch Blues	3.00	@	3.15
New Checks and Blues	2.85	@	3.00
Old Fustians	2.75	@	2.85
Old Linsey Garments	2.65	@	2.85
New Silesias	6.50	@	7.00

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.12	@	.40
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.07¼
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¼	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	42.00	@	—
Sheets, open	47.00	@	—
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White.	1.40	@	1.65
No. 1 Soft White.	1.25	@	1.50
Ledger & Writings	.60	@	.70
Solid Books	.50	@	.60
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1 Folded News	.42½	@	.45
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

TORONTO

Paper

Bonds and Ledgers

Delivered

No. 1 White	.35½	@	—
No. 1 Tints	.36½	@	—
No. 2 White	.26½	@	—
No. 2 Tints	.27½	@	—
No. 4 White	.14½	@	—
No. 4 Tints	.15½	@	—
No. 5 Bond—White	.10¾	@	—
No. 5 Bond—Tints	.11¾	@	—
No. 5 Bond—Golden Rod	.12¾	@	—
No. 5 Ledger—White	.11¼	@	—
No. 5 Ledger—Tints	.12¾	@	—
No. 6 Bond—White	.10	@	—
No. 6 Bond—Tints	.10½	@	—
No. 6 Bond—Golden Rod	.12	@	—
No. 7 Bond—White	.08¼	@	—
No. 7 Bond—Tints	.08¾	@	—
No. 7 Bond—Golden Rod	.10¼	@	—
Book—			
No. 1 M. F.	6.50	@	6.75
No. 2 M. F.	6.25	@	6.50
No. 3 M. F.	5.00	@	5.25
No. 1 S. C.	7.00	@	7.50
No. 2 S. C.	6.50	@	7.00
No. 3 S. C.	5.50	@	6.00
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	4.80	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 2	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	Nominal		
Sheets	Nominal		

Pulp

Ground wood	28.00	@	—
Unbleached Sulphite	46.00	@	—
Book (Class 1)	60.00	@	—
Writing (Class 2)	61.00	@	—
Select (Class 3)	62.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.25
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.80	@	.90
Light and Crumpled Book Stock	.70	@	.80
Ledgers and Writings	.90	@	1.00
Manilas—			
New Manila Cut.	1.20	@	1.40
Printed Manilas	.55	@	—
Kraft	1.00	@	1.60
News and Scrap—			
Strictly Overissue	.60	@	—
Strictly Folded	.55	@	—
No. 1 Mixed Paper	.45	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.07	@	.08¼
Fancy Shirt Cuttings	.03	@	.03½